

CNG News

Edition 2, January 2005

Welcome

Introducing the members of the National Chilean needle grass Taskforce in the photo below. The Taskforce was established in April 2003 to oversee the implementation of the *Weeds of National Significance Chilean needle grass Strategic Plan* (2001) and determine national priorities.

According to the Taskforce, most of the actions revolving around the four major goals in the Strategic Plan are progressing well. A National Communication Plan is currently being developed by the Taskforce to ensure effective dissemination of the key messages. *CNG News* is one 'tool' by which such is carried out.

Linda Iaconis

National Chilean needle grass Coordinator



National CNG Taskforce members (R to L): Linda Iaconis; Keith Hamilton (Chair); Michael Hansford (Victorian DPI); Michael Michelmore (NSW DPI); Dr David McLaren (Victorian DPI); Ian Lobban (Victorian Farmers Federation); and Frances Overmars (Community representative), with Karen Jones (Environment Officer). Karen was showing us some roadside infestations of CNG in Indigo Shire after a Taskforce meeting held in Wodonga on the 22nd October 2004. Although absent, Geoff Price (Environment ACT); Dr Colin Hocking (Victoria Uni) and Peter Wlodarczyk (Private contractor) also sit as members on the Taskforce.

Correspondence to the National CNG Taskforce is via:

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Natural Heritage Trust
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NOW is the time to easily identify CNG

A major stumbling block to the management of Chilean needle grass (CNG) is identification. Only once a weed is correctly identified, can appropriate management be applied.

The easiest time to identify and prevent the spread of CNG is between October and April when it is flowering and setting seed. Its flowers and seeds have characteristic features that allow it to be differentiated from many native and introduced species of similar appearance.

Illustrations by
Enid Mayfield



Figure 1: CNG inflorescence

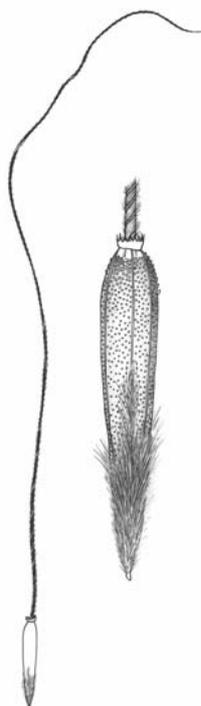


Figure 2: Normal CNG seeds



Figure 3: Cleistogenes of CNG

The inflorescence is a tall spikelet with a characteristic purplish colour (Figure 1).

Two types of seed are produced: Normal seeds are formed on the flowering stems. At the junction of each awn (or 'tail' of the seed) is a characteristic raised crown called a corona, encircling the base. The awn becomes twice-bent once fully developed (Figure 2).

Stem seeds, called cleistogenes, are formed at the nodes, these being swellings along the flowering stem that give rise to leaves. Cleistogenes are covered by the leaf sheath, which has been removed in Figure 3.

Identification notes with further descriptive and pictorial information on CNG are available from:

<http://www.dpi.vic.gov.au>

(Follow links to Agriculture & Food > Factsheets > Weeds > Other Weeds > CNG Identification)

<http://www.agric.nsw.gov.au/reader/nsw-agriculture>

(Follow links to Weed List > CNG)

Biological Control Research

A project examining the possibility of biological control (biocontrol) of *Nassella neesiana* has been underway in Argentina for four years. This project is managed by the Victorian Department of Primary Industries, in association with CSIRO and Landcare Research (New Zealand).

After initial field surveys of pathogens attacking CNG in its native range of South America, only the rust fungi *Puccinia nassellae* and *Uromyces pencanus* were identified as potential biological control agents warranting further investigation.

Australian *N. neesiana* is susceptible to infection by both fungi. *U. pencanus* particularly holds promise, as it can be quite damaging to the plant and it is relatively easy to rear. Yet, gaps still exist in our knowledge of the life cycles of both fungi, and only a limited number of plant species selected for investigation have presently undergone host specificity testing. Indeed, most biocontrol research programs are long-term undertakings, due to the rigorous testing required.

For both rust fungi to date, it has not been possible to get re-inoculation of CNG from the overwintering spore stage. There are three possibilities why this could be occurring: (1) The laboratory conditions (temperature, moisture, etc) have not been conducive to inoculation; (2) The rusts are losing the requirement for this life cycle stage and its becoming redundant; or (3) An alternate host plant is involved, becoming infected then re-infecting CNG.

Several South American infestations of CNG, visited in the initial survey, were revisited in October 2004 in search of prospective alternate hosts of *P. nassellae*. No alternate hosts were found at the time. However, a third rust, *Puccinia graminella* was discovered at four sites, and at a particularly damaging level at one of these sites. Preliminary life cycle investigations are currently taking place, to determine if *P. graminella* may also prove a potentially beneficial biocontrol agent for CNG.

For further information on the project, contact Dr David McLaren at the DPI Frankston site on (03) 9785 0111 or via email David.McLaren@dpi.vic.gov.au.



Photo: *Nassella neesiana* infected with the rust fungus *Puccinia nassellae*.

CNG Management in a Native Grassland West of Melbourne

CNG invades native grasslands, which are now restricted to less than 0.5% of their original area. The management of one such grassland remnant on the Victorian Volcanic Plains is described.

Bush's Paddock is a 45 ha paddock located on the western slopes of Mt. Cotterell. It is divided into two paddocks; one has been previously cultivated and is now partly covered with native windmill grass (*Chloris truncata*) and spear grass (*Austrostipa* spp.). The other has never been cultivated and is dominated in one section by spear grass and the other by kangaroo grass (*Themeda triandra*). Both paddocks contain CNG, thought to have entered the site in contaminated hay.

In 2001, CNG plants were initially controlled by mattocking, ensuring the root system and leafy parts of the plant were removed. In this way, no stem or basal seeds were given the opportunity to germinate. During the past few years of drought no new germination was noticed. However, after more than 80 mm of rain was received in November 2004, new plants began to appear and previously undetected established plants became visible.

Crash grazing in spring has also been periodically applied to the site. Pasture inspections are carried out every two to three days, with the most vulnerable plant (cranes-bill, *Geranium retrorsum*) used as an indicator species. When the cranes-bill appeared grazed by more than half, stock are withdrawn. The introduced grasses and broad-leaved weeds are eaten down to ground level, while the native herbs and annual grasses are only partly consumed. This has allowed the native grasses to grow and set seed, as well as create increased competition for CNG seedlings.

In 2004, mature CNG plants were removed by further mattocking and spot spraying with glyphosate. Spraying was very specific to the target, as competition from the adjoining spear, windmill and wallaby grasses (*Austrodanthonia* spp.) needed to be encouraged. Treated areas were marked (as shown in the photo opposite), so they could be easily located for monitoring and further management.

Integrated weed management (IWM) - using a range of management options at the appropriate period in the plant's life cycle - has proven successful. Such an approach has increased the abundance of indigenous grassland flora and reduced the cover of CNG at Bush's Paddock. Of course, IWM needs to be a continuous long term approach, not just a 'one off' effort.

Contact Pinkerton Landcare and Environment Group on (03) 9748 1294 for further information.



Councils Advancing CNG Management

1. Shire of Melton (VIC)

The Shire of Melton is undergoing rapid land use change, having the fastest growth rate of any municipality in Australia. It supports remnants of some of the country's most threatened ecosystems - basalt plains grasslands and grassy woodlands. These ecosystems are particularly vulnerable to poor land management practices and invasion by exotic stipoid grasses such as CNG.

Council's main weapon in combating these issues is a rate rebate scheme, which provides a financial incentive to control weeds and address other forms of land degradation. To obtain the rebate, rural landholders must develop a property management plan and successfully complete specified works. Those that do not, have their rebate withdrawn and are reported for enforcement action.

The scheme provides regular and direct contact with landholders. Every property in the Shire has at least one site visit by a Council officer each year. Landholders are provided with tailored information in a one-on-one setting. The scheme stimulates management actions that would likely not otherwise occur. Council follows up the visits with further community education programs.

In addition, Council has launched a Natural Heritage Trust (NHT) funded program to improve the quality, extent and security of native grasslands on private land. It provides \$100,000 for works to protect and improve native grasslands, with works performed by specialist contractors.

Council is actively managing publicly owned grassy ecosystem sites. Management actions have included burning, grazing, hand weeding, spot spraying, spray topping, boom spraying and revegetation. Along roadsides, strategic slashing of weeds prior to seed set and targeted herbicide application has improved control markedly. The Environmental Services unit of Council is presently examining further ways to achieve improved weed control and conservation outcomes.



Photo: Direct seeding of kangaroo grass into an area previously infested with CNG, overlooking the Kororoit Creek at Bullum Bullum, Burnside.

For further information on the above, contact Alan Brennan at Shire of Melton on (03) 9747 7393 or via email alanbren@melton.vic.gov.au.

2. Greater Hume Shire (NSW)

CNG has been located in the southern portion of the Greater Hume Shire since 2000. Initially, infestations were confined to the Riverina Highway and a couple of local roads in the vicinity. Infestations were well established, but little spread was evident.

Treatment consisted of spraying at the opportune time and every effort was made to at least control the infestation, and at best eradicate the plants. The problem escalated when subsequent infestations were identified in tree lots along the Riverina Highway and other major roads in the Shire. Travelling stock are thought partly responsible, as some of the new infestations were found along Travelling Stock Routes and Travelling Stock Reserves.

Drought conditions that gripped the region between 2002 - 2003 likely exacerbated the problem. The number of travelling stock increased, as the area was one of the last to feel the brunt of the drought, and so contained feed for stock on roadsides and reserves. This appears to have moved CNG into known 'clean' areas. As the drought worsened, the amount of fodder that came into the Shire increased, which furthermore coincided with a sharp increase in CNG.

Although infestations are largely confined to roadsides, CNG can now be found in a number of locations through the southern, central and northern areas of the Greater Hume Shire. In addition to travelling stock and the distribution of contaminated fodder, slashing of roadsides and flooding have contributed to the spread of CNG. Many issues, therefore, need to be investigated to contain and control the growing problem.



Fencing of infested roadside areas, use of residual chemicals for early and long term control, restricting the movement of stock and the use of machinery in areas known to contain CNG and, above all, education of land managers, need to be employed as methods to reduce the impact of CNG in the Shire.

For further information on the above, contact Tom White at Greater Hume Shire on 0427430091 or via email Twhite@culcairn.nsw.gov.au.

Photo: Tom White (Senior Weeds Officer, Greater Hume Shire Council) with a large green CNG tussock found on the Olympic Way just north of Culcairn (NSW).

Upcoming Events

Weeds Society of Victoria Seminar (17th February 2005)

The seminar entitled '*Policies for Weed Management - Who Has Responsibility*' will be held at the Clayton campus of Monash University.

For further details contact Ros Shepherd on secwssv@surf.net.au .

8th Queensland Weed Symposium (19th -22nd June)

The Weed Society of Queensland is hosting the 8th Queensland Weed Symposium in Townsville, focussing on the latest innovations in weed management.

For further details visit www.wsq.org.au .

2nd Biennial Weed Control Conference - Victoria (17-18th August 2005)

The Weed Society of Victoria will be holding its Second Biennial Weed Control Conference - '*Smart weed control managing for success*' in Bendigo.

For further details contact Ros Shepherd on secwssv@surf.net.au .

13th Biennial Noxious Weeds Conference - NSW (20th -22nd September 2005)

The conference, to be held in Orange, is given the theme '*Weeds - the real cost*'. It will include talks from a wide range of experts, and interactive workshops and seminars.

For further details contact Lyn Gough on lgough@orange.nsw.gov.au .

Tasmanian State Weed Conference (September 2005)

The Tasmanian Weed Society is pleased to announce that the Tasmanian State Weed Conference will be held in Hobart next year (dates and venue to be decided shortly).

For further details visit www.tasweeds.org/ .

4th National Native Grasses Conference (11-13th October 2005)

The Stipa Native Grasses Association will host the National Native Grasses Conference to be held at historic Burra in South Australia. Seven aspects of native grass management will be discussed.

For further details contact Christine McCrae on cmcrae@hwy.com.au .

Envirofund

Successful projects resulting from the first round of Envirofund for 2004-05 were announced on the 12th November 2004. A full list of successful projects in each state funded under the Australian Government Envirofund is available on the Natural Heritage Trust website at www.nht.gov.au/envirofund .

Community groups may apply through Envirofund to carry out on-ground work such as tree planting, weeding, fencing and seed collecting to target local problems. Indeed, the essence of the program is to empower local communities to develop local solutions to local environmental challenges.

Applications for the next round of Envirofund close at 5pm on 18th February 2005.

Projects up to \$50,000 can be applied for in the new round.

For application forms, phone 1800 065 823 or visit www.nht.gov.au .