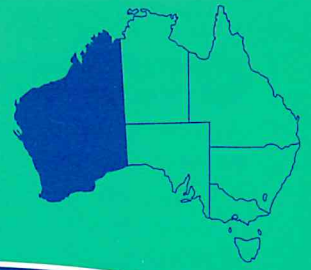




CRC FOR
PLANT ~ BASED
MANAGEMENT
OF DRYLAND
SALINITY



Salinity Update WA

November 2004

This is the first quarterly *Salinity Update* for WA, based on the model developed in South Australia by Bruce Munday and provided through the National Dryland Salinity Program (NDSP) since 1998. Now it is also being offered through the CRC in WA, NSW, ACT, southern Queensland, Victoria and Tasmania and will accompany distribution of *Focus on Salt and Salt Magazine* – which the CRC has also taken over since the conclusion of the NDSP.

This WA edition will reach approximately 600 people with an identified interest in salinity: extension providers, policy advisers, researchers, local government, CMAs, landcare and catchment groups, NGOs, State politicians, farmers and media.

We are currently building up our mailing list in WA and would appreciate your help. If you know anyone who would like to receive this update, along with *Focus on Salt* and/or *Salt Magazine*, please let us know.

As this is essentially a 'community newsletter' it welcomes contributions from anyone with an item of interest to the readership. The next edition is scheduled for early March 2005

➤ *Further information from Chris Twomey: 08 6488 8553, ctwomey@fnas.uwa.edu.au*

The WA SGSL Producer Network recently ran three very successful regional salinity forums on "Making saltland pay". Approximately 300 people turned up to see and hear the latest, including an update on CRC research activities and work-in-progress reports from some of WA's 70 Producer Network trials.

These events linked the CRC's SGSL research and producers involved in SGSL demonstration sites or interested in saltland production. The forums were jointly organised by the Saltland Pastures Association, the SGSL Producer Network and local producer groups (Cranbrook - North Stirlings Pallinup group and Gilliam Landcare Centre; Buntine - the Liebe Group; Wickepin - the Facey group).

The turnout and feedback were excellent, and researchers reported that the positive contact with producers has energised and inspired them.

➤ *Further information: Justin Hardy 08 9892 8408; jhardy@agric.wa.gov.au*

Included in the saltland 'package' was a monograph *Golden Pastures – 50 years of saltland agronomy in WA* that captures some of the achievements of renowned saltland agronomist Clive Malcolm. Copies are available (free) from Justin Hardy 08 9892 8408; jhardy@agric.wa.gov.au

Perennial Crops symposium at UWA, organized by Ted Lefroy and Chris Davies, included presentations by Stan Cox from the Land Institute in Kansas and Doug Lammer from Washington State University. The Land Institute is a private not for profit organisation that has been breeding and selecting perennial grain crops over the last 20 years. The team at Washington State University are developing perennial wheats for the Palouse region of the Pacific Northwest USA.

Both talks were recorded on digital video and can be obtained from the CRC. A CRC perennial crops project proposal is under development.

➤ *Further information from Chris Davies 08 6488 1432; chrisdav@cyllene.uwa.edu.au*

Spanish botanist Dr. Segundo Rios-Ruiz, University of Alicante, is a guest of the CRC in WA. Dr. Rios has a strong interest in Australian flora and is working on the genus *Bituminaria*.

➤ *Contact Dr Rios at 08 6488 1952; s.rios@ua.es.*

The CRC's native species collection and evaluation project recently completed a 2800km collection trip, passing through Meekatharra and Carnarvon, and collecting 27 accessions from 18 species of native herbs and legumes, including 3 species of *Cullen* and 7 species of *Swainsona* that were previously uncollected. The seed will be grown out for seed increase as soon as possible.

The 16 species put into seed multiplication plots earlier this year has shown some promising material, particularly the rapid spring growth of several *Swainsona* species.

➤ *A CRC brochure on this project from: Richard Bennett 08 6488 1936; rbennett@agric.uwa.edu.au*

Current Recommended Practice (CRP) – a Directory for Broadacre Dryland Agriculture

is a new MDBC report identifying the relationships between management practices and sustainability goals. It recognises that there are ways of managing farm practice from an economic, social or an environmentally sustainable perspective. Many of these CRPs are likely to benefit water quality and river health and are relevant right across dryland agricultural regions.

This CRP directory is one part of the MDBC Landmark research project which has developed and tested methods to determine if current farming practices and CRPs achieve the environmental, economic and social sustainability outcomes. It is available from:

- <http://publications.mdbc.gov.au/> or
- http://www.mdbc.gov.au/landmark/d_loads/d_loads.htm or
- the MDBC office for your free copy, on 02 6279 0546.

➤ *Further information from Charlotte Keller at charlotte.keller@mdbc.gov.au*

Salt-water wheat from wild barley - this CRC and GRDC-funded project led by Dr Tim Colmer has a nice little write-up in CSIRO's September edition of Ecos (theme being Towards a Sustainable Future): <http://www.publish.csiro.au/ecos/index>

A salt and waterlogging tolerant cereal is being developed to enable farmers to extend cropping onto soils with salinity levels too high for any existing cereal breeds. The key to the research is *Hordeum marinum* or sea barley grass.

➤ *Further information from Tim Colmer: 08 6488 1993; tdcolmer@cyllene.uwa.edu.au*

Another CRC Salinity project is profiled in the salinity feature of the October edition of Ecovoice. Dr Jim Virgona leads a project looking at low cost strategies to encourage native perennial pastures at the expense of annuals.

For much of the permanently grazed part of the higher rainfall zone, native grasses are the only widely adapted perennial species that can be utilised to increase water use in the system. Economic and physical factors make it unrealistic to sow exotic species. With the lack of available native grass seed, the only option for graziers may be management strategies that encourage the natives to flourish.

Benefits are:

- increased water use and decreased recharge
- maintenance of cover over summer/autumn and reduced erosion
- greater stability of pasture production over the year.

➤ *Further information: Dr Jim Virgona, 02 6933 4174, jvirgona@csu.edu.au*

Centre for Groundwater Studies still has a couple of courses on offer for 2004:

- 3rd Groundwater Modelling School (concepts, applications, predictive uncertainty) Mon 6 – Thur 9 Dec at New College, Uni NSW
- 28th Australian Groundwater School, Mon 13 – Sat 18 Dec, Currie Hall, Uni WA

➤ *Further information: Trevor Pillar, 08 8201 5632; cgs.training@groundwater.com.au <<www.groundwater.com.au>>*

Trees planted to combat salinity may hold the key to sustainable steel making. Scientists with CSIRO Minerals have found that char produced from trees instead of coke to fuel iron ore sintering significantly improves productivity and environmental performance

CSIRO's sintered product has similar physical properties to the coke-fuelled version, is produced more quickly, has balanced greenhouse gas emissions and radically reduces noxious gas emissions. It is ironic that the industrial revolution relied on wood char as blast furnace fuel until the 1700s, resulting in widespread deforestation; three centuries later we are looking at biomass for environmental reasons. Rotational harvesting of managed plantations can integrate energy production, salinity amelioration and erosion control, while protecting native plants and animals. Calculations suggest the yearly plantation of mallee gums currently underway in Western Australia for salinity control could provide enough fuel for the entire Australian steel industry.

➤ *Contact: 03 9545 8631; Roy.Lovel@csiro.au*

The CRC is collaborating with AWI Ltd to support WA's Evergreen Farming Systems group to explore the potential of new sub-tropical perennial pastures. The research project will trial these perennials on a range of agronomic parameters such as productivity, establishment techniques, persistence and drought tolerance. Being driven by farmers involved with the Evergreen group will ensure it is relevant to the needs of woolgrowers.

The project will also look at how sub-tropical species respond to various grazing management techniques and their water use compared to annual pastures.

➤ *Further information at <http://www1.crcsalinity.com/>*

His Excellency, Lieutenant General John Sanderson, Governor of Western Australia

visited CRC Headquarters the other week to receive a briefing on salinity research and an update on the CRCs activities. The Governor has taken a keen personal interest in salinity, and presided over the CRC's launch nearly three years ago. He requested this update after seeing an ABC TV news story on Lindsay Bell's research with Hairy Canary Clover (*Dorycnium Hirsutum*).

The CRC has project brochures summarising most of its research activities. Below is a list of titles, and PDF versions will be available on our website soon. If you would like to receive hard copies any of these, please let Chris Twomey know.

CRC Brochures

CRC Corporate Brochure – Programs, Objectives & Contacts

How the CRC can partner with Catchment Management Organisations ***new***

Program 1

Promoting salinity solutions through agribusiness (Landmark project)

Program 2

Mechanisms of water use in native ecosystems (SP2) ***new***

Saline ecosystems in southern Australia (SP3)

Program 3

Florasearch – innovative low rainfall agroforestry (SP4) ***new***

New and improved legumes, grasses and crops (SP5)

National field evaluation and selection of new pastures and crops (SP5)

New forages for saline land (SP5)

Developing salt tolerant crops (SP5)

Using native perennial species in agriculture (SP5)

Improving lucerne performance for acid soils (SP5)

Birdsfoot trefoil for the northern recharge zone (SP5)

Program 4

Managing perenniality in permanent pastures (SP6) ***new***

Integrating crops with perennial pastures (SP7)

Sustainable grazing of saline lands SGSL (being updated, now Program 6)

Program 5

Decision support tools for assessing land suitability (SP9)

Spatial diagnostic tools to aid deployment of perennial systems (SP9)

Farm-level economics of plant-based systems (SP10)

Public policies for effective salinity management (SP10) ***coming soon***

Program 6

Functional implications of high salt diets (S11)

coming soon

Profitable animal production from perennials (SP12)

Program 7

Prevention is better than cure –managing weed risk in perennial systems

➤ Further details from Chris Twomey: 08 6488 8553, ctwomey@fnas.uwa.edu.au

The CRC Salinity's Annual Report for 2003-2004 is now online at <http://www1.crcsalinity.com/>

SEA News is a newsletter on bioeconomic and social research on Sustainability and Economics in Agriculture. A couple of interesting papers in the Nov edition:

- *Innovative grazing systems for Western Australia: meeting the perennial challenge* by Marcus Sounness, David Pannell and Steven Schilizzi: "Intensive rotational grazing practices have the potential to substantially increase the profitability of grazing enterprises on both annual and perennial pasture"
- *Farm and catchment benefits of reducing recharge to ameliorate dryland salinity: an economic study of the Boorowa River catchment in NSW* by Andrew Bathgate, Jayden Woolley, Ray Evans and Ian McGowen: "The trade-off between stream salinity, stream flow and land salinity highlights the need to manage natural resource issues in a systems context"

➤ Full papers at <http://www.crcsalinity.com.au/newsletter/sea/>

A new website has been launched for the CRC for Landscape Environments and Mineral Exploration (LEME): <http://crleme.org.au/> This CRC, now in its fourth year, has four Research Programs – two of which are focused on research in natural resource management:

- Program 3 - Environmental Applications of Regolith Geoscience; and
- Program 4 – Salinity Mapping and Hazard Assessment.

Sourcing the Salt - How to identify if your catchment is contributing to a salinity problem

is a small booklet from the BRS as part of its Science for Decision Makers series. Go to <http://www.affa.gov.au/brs> and search for 'sourcing the salt' – download an 8-page PDF by Peter Baker and Michele Barson, BRS; Allan Nicholson, NSW DIPNR and Tom Gavel, Chair, Central West Catchment Management Authority.

Why would you subscribe to Saltlist? Saltlist is the (free) NDSP moderated listserv that connects 647 researchers, extension providers, policy advisers, farmers and educators. Subscribers seek and share information, progress debate and promote resources.

➤ To subscribe, visit the home page at www.saltcontrols.com or www.ndsp.gov.au

Additional copies of the any of the publications included with this newsletter are available from Chris Twomey: 08 6488 8553, ctwomey@fnas.uwa.edu.au

Does this reach the right person at the correct address? If not, please notify Chris Twomey: 08 6488 8553, ctwomey@fnas.uwa.edu.au

The NDSP mailing list has not been updated for several months. To conform with Land & Water Australia's Privacy Policy, the CRC is unable to update this list. As a result, some people to whom this material has been addressed will have moved on.

The CRC apologises for any inconvenience this mail delivery might have caused and we will be very grateful if you are able to forward the mail on. We will also appreciate you informing any other individuals in your organization whom you believe would benefit from being on our revised mailing list that we are currently building.

Please contact the CRC Communications person in your State:

WA	Vic and Tas
Chris Twomey Ph (08) 6488 8553; Fax (08) 6488 2856; ctwomey@fnas.uwa.edu.au	Jo Curkpatrick Ph (03) 9328 5301; Fax (03) 9328 5301; jo@spancom.com.au
SA & NT	NSW, ACT and Qld
Bruce Munday Ph & fax (08) 8538 7075; bruce@clearconnections.com.au	Elizabeth Madden Ph (02) 6938 1985; Fax (02) 6938 1995; elizabeth.madden@agric.nsw.gov.au

Coming events

2004 World Conference on Natural Resource Modelling

RMIT University, Melbourne,
12-15 December 2004

For more information: <http://www.ma.rmit.edu.au/2004RMAconference>
or Megan Austin at rma2004@rmit.edu.au or (03) 9925 2283.

49th Annual Conference of the Australian Agricultural and Resource Economics Society

Coffs Harbour, NSW
9 - 11 February 2005
Pre-conference workshops on Salinity and Trade on 8 Feb
Early-bird registration closes 10 December 2004

<http://www.all-occasions.com.au/AARES/>

International Salinity Forum

**Managing Saline Soils and Water:
Science, Technology, and Social Issues**
Riverside, California
25-27 April 2005

<http://www.waterresources.ucr.edu>