CRC FOR
PLANT ~ BASED
MANAGEMENT
OF DRYLAND
SALINITY

Salinity Update WA

July 2006

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CRC Salinity Re-bid. The CRC for Plant-based Management of Dryland Salinity heard in May that it had survived the first stage of the re-bid process for re-incarnation. The much more detailed second stage plans must be submitted by 18 August and the final outcome will be known by 31 December. If successful, a broadening of focus is planned beyond salinity to more profitable perennial plants and the name is likely to become the Future Farm Industries CRC. Twenty organisations received the nod to advance to the second stage and it's expected that at least 12 will be successful. Those new CRCs will be required to have their corporate structures in place by 1 July 2007, the beginning of the seventh and final year of the current CRC.

- *Kevin Goss at (08) 6488 1952 or kgoss@fnas.uwa.edu.au*

Using saltbush as an emergency sheep ration is being recommended by CRC scientists Dr Ed Barrett-Lennard from the Department of Agriculture and Food, and Dr Hayley Norman from CSIRO Livestock Industries. In the current feed crisis, crash grazing saltbush for a few weeks with large numbers of animals should not endanger the plants' survival. Growth is currently very slow due to low temperatures but the plants should bounce back in the warmer spring days. Dr Barrett-Lennard said that typical yields of up to a tonne of saltbush leaf per hectare was not a huge feed supply but better for sheep than sucking stones. Autumn is the traditional grazing time for saltbush when few alternatives are available, but the scientists agreed farmers should not wait if feed was needed now.

Dr Norman's work from a farm site at Tammin has shown that saltbushes left ungrazed in autumn produced similar volumes of feed the following year to bushes that were grazed heavily. If the saltbush feed was not used within a year it was lost, presumably due to leaf drop and slower growth rates of ungrazed bushes. They are very resilient plants; saltbush is a good source of protein and vitamin E, but is low on energy and high in salt. If there is not a good understorey, as is the case now, animals should be supplemented with hay or grain. Feedlotting animals in saltbush paddocks will also allow annual pastures in other parts of the farm to get away to a good start after germination.

Although Dr Norman's research at Tammin, Yealering and Lake Grace has not shown that saltbushes are killed by heavy crash grazing, farmers should not leave sheep on saltbush for more than a month. This is especially important if the saltland becomes waterlogged, as the soil will become pugged and the combined stresses may impact on plant recovery.

➢ *Ed Barrett-Lennard on 0418 133 611 or Hayley Norman on 0429 394 933*

The hot topic of drainage is getting warmer with a State Administrative Tribunal hearing scheduled for August in relation to a 16 km Kulin project. Before work began, four farmers submitted a Notice of Intention to Drain (NOID) to the Office of the Commissioner of Soil and Land Conservation and received no objection to their plans. The drains were installed around May 2004 at a cost of about $150,000. However, about 14 months later the Commissioner's Office received complaints from downstream land owners that land and farm water supplies had been affected by saline water coming from the drains. This resulted in a direction from the Commissioner's Office to fill in the drains, and the appeal by the farmers to the SAT. It's expected to be several months after the August hearing before a decision is known, but many wheatbelt parties will be watching the results with great interest.

During 2005-06, 48 landholders submitted NOIDs to the Commissioner's Office in accordance with regulation 5. Following assessment, 25 were issued letters of no objection, 14 received objections, two were referred to the Environmental Protection Authority, two were cancelled and five remain pending. Both the State and Commonwealth Governments are being pressured to invest public funds (NAP/NHT2) in regional arterial drainage schemes. Commissioner Andrew Watson has said that regulations under the Soil and Land Conservation Act 1945 are inadequate for the orderly development of such large scaled schemes, and the same point was made in the State of the Environment Report (see below). Compliance with the regulations also remains a contentious issue. Eight complaints alleging breaches of the regulations were registered during the year and remain under investigation.

The Environmental Protection Authority has released the **draft Western Australian State of Environment Report** for public comment. EPA Chairman Wally Cox said the report card summarised the condition of WA's environment, major environmental issues and measures to improve our environment. Forty of the State's most important environmental issues were rated, with eight considered the highest priority (five stars). Land salinisation and salinisation of inland waters were two of these.

Dr Cox said a number of environmental problems could be overcome if all levels of government, industry, business and the community worked together to develop long-term targets. An example of this cooperation was evident in the Collie and Denmark regions with programs to reduce salinity levels in local waterways. For the first time in Australia, increasing salinity trends in the Collie and Denmark rivers have stabilised or been reversed due to focused catchment management over several decades.

The report said there was inadequate information about soil and landform condition. Vegetation cover, which protects the land, has decreased in a third of monitored bioregions over the past decade, with most loss occurring in the South West. Suggested responses included development of a State soil protection policy to ensure that all soil resources are managed in a sustainable manner and protected for the long-term.

On land salinisation it was estimated that 75% of Australia's dryland salinity problem is in WA with about 1.08 million hectares of South West land affected. Its suggested response was implementing the recommendations of the State Salinity Strategy, recognising salinity as a component of the proposed State soil protection strategy, and continuing the Land Monitor program to provide five-yearly updates of the extent.

Discussing inland waters, the report noted that more than half of the water discharging from South West waterways was salt-affected, but salinity monitoring had fallen by a third over the last five years. Suggested responses included developing a strategic policy and governance framework for agricultural deep drainage, considering drainage in the context of integrated solutions where such options were environmentally sound, and enhancing routine monitoring of waterways and wetlands currently impacted by and at future risk of salinisation.

The draft report is available at www.soe.wa.gov.au and public comment closes on 29 September 2006. A final version is expected to be released in late 2006 or early 2007.

Farm-based experiments from 2002 to 2005 to establish salt-tolerant pastures under the Sustainable Grazing on Saline Lands program have been analysed by DAFWA economist Allan Herbert, who reported his findings to the recent Sheep Updates in Perth. Mr Herbert said 14 wheatbelt sites studied had ranged from very hostile samphire land through the moderately affected 'barley grass' zone to slightly affected 'crops at risk' land. All sites were based on saltbush with or without mixes of annual and/or perennial legumes and/or grasses. The average cost of establishment was $277/ha, ranging from $103 at Moora to $717 at Morawa. (Editor's note: Be aware however that these trials are often at very small scale so that very different results might be obtained from larger areas.)

At Corrigin, Bonnie Rock and Moora sites the investment would be returned in as little as three to four years, Mr Herbert suggested. The less profitable sites had higher costs (e.g. re-establishment after failures), inappropriate establishment techniques or wrong species mixes. All sites were aimed at autumn grazing – to supplement stock during the period of lowest feed supply and to reduce the normal cost of supplementary feeding.

➢ *Alan Herbert, Department of Agriculture and Food, 9368 3680*

One hundred Avon farmers have been successful in receiving the saltland pasture incentive payment funding for planting this year. The project is being managed by the Saltland Pastures Association and is State and Australian Government-funded through the Avon Catchment Council's Valley Floor Management program. The project has specifically targeted farmers in the low rainfall (<450 mm) zone of the Avon basin, where saltbush-based pastures grow most successfully and have greatest impact on the water table. Priority has been given to first time growers, with the aim of reducing the often expensive establishment costs of saltbush-based pastures.

The spread of participating farmers across the region has been excellent, with most shires having at least one involved. Participating farmers have been subsidised to grow up to 10,000 saltbush seedlings, or up to 10 ha of direct seeded saltland pasture. It is anticipated that at least 600,000 saltbush seedlings will be planted this year through the incentive scheme.

All farmers receiving the incentive payment will receive on-ground advice and support from one of SPA's six National Landcare Program-funded advisers. The advisers are assisting with site selection and design, seedling supplies and orders. They are also implementing local trials or demonstrations, aimed at generating interest in productive saltland in their areas.

➢ *Sally Phelan, Saltland Pastures Association spa@agric.wa.gov.au*

The trial to decrease salinity in the Collie River and Wellington Dam appears on track to render the water suitable for drinking again. Water Resources Minister John Kobelke has launched the second year of the Collie River Salinity Recovery Project saying initial results had been very promising. The Minister said the project involved diverting early winter higher-salt flows from the Collie River away from the Wellington Dam and into a former mine shaft. This allowed the less salty water to flow into the dam. Over the past year about 3,000 tonnes of salt has been diverted from the Collie River into a mine void. All the signs are pointing to us being on track to see the Wellington Dam revived, which will in turn allow us to harness a precious supply of drinking water for Western Australians. The project is funded by the State and Federal Governments from $316 million available for WA under the National Action Plan for Salinity and Water Quality.

Demand for pasture seed for salt-affected agricultural areas has risen considerably, forcing merchants to source commercial quantities of tall wheatgrass and puccinellia seed from the Eastern States. However there appears to be major shortage of both species from normal suppliers at present offering a small cash crop opportunity to growers with harvestable areas. Any areas already established or being established this season could be encouraged to go to seed and yield well by deferring spring grazing and fertilising.

Harvesting would then be during summer and some small plot headers are available to access small and narrower strips. Seed merchants offer a marketing commission of about 10% as well as seed cleaning (25 c/kg) and germination testing. See DAFWA Farmnote 75/96 'Harvesting tall wheatgrass and puccinellia for seed.'

- *Justin Hardy on 9892 8408 or jhardy@agric.wa.gov.au*

Barriers to farmer adoption of salt-tolerant pastures have been studied in the central wheatbelt recently in Department of Agriculture and Food research, organised by Anne Jones at Narrogin. The project used telephone interviews of farmers followed by focus group discussions at Corrigin, Wickepin and Yealering, and then a survey of farmers in those three shires plus Brookton. One question related to financial incentives as a motivator for establishing saltland pastures. It appeared that financial incentives were likely to be more important for those with larger properties, less salinity and less pasture. One interpretation of this response was that for farmers on small properties with more salinity, grant money was less urgent because overcoming the loss of land and production was just too urgent to wait! Full analysis of the survey is still to be completed and it will be published in coming months.

- *Anne Jones on 9881 0222 or ajones@agric.wa.gov.au*

The mail-out of the June issue of *Focus on Salt* newsletter and *Salt Magazine* encountered a few problems with individual names omitted from subscribers at WA Government Departments and the University of Western Australia. If you are still waiting for copies, contact Elizabeth Wheeler on 6488 8553 or *ewheeler@fnas.uwa.edu.au*

Any comments, queries or notice of up-coming events related to salinity, don't hesitate to contact:

- *Georgina Wilson on (08) 6488 7353 or gwilson@fnas.uwa.edu.au*

It would be great if you would alert/remind your friends/colleagues that this edition is now available and point out that they can subscribe to a reminder of each new edition at *www.crcsalinity.com.au/update*

Coming events

Pastures for Profit Workshops

5 September, Mt Barker and 7 September, Dandaragan

Phil Barrett-Lennard, 9475 0753 or pbl@consultag.com.au

13th Australian Society of Agronomy Conference

10-14 September 2006, Perth WA

www.agronomy.org.au

Field day of Saltland Pastures Association followed by AGM

21 September 2006, Cranbrook

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