

Sweet solution for western weeds

ORDINARY sugar has proved a weed-killing solution helping to re-establish native perennials in Western NSW, according to I and I NSW researchers Ian Toole and Dr Ron Hacker.

"Surprisingly, we found that reducing soil fertility with sugar substantially reduced the growth of annual weeds and grasses and allowed slower growing native perennials grasses to re-establish," said Dr Hacker.

"Whereas most agricultural activity aims to increase soil fertility, that wasn't the case for the native perennials grasses in competition with the annuals.

"The sugar reduces soil fertility because it promotes the immobilisation of plant available nitrogen - and when



Trial reduced growth of annuals.

added to experimental plots at Trangie, it helped re-establish native perennials."

Dr Hacker said finding a practical means of reducing the level of plant available nitrogen might offer a simple means of restoring degraded grasslands in the semi-arid zone.

"The sugar isn't practical over a large area but techniques such as pasture cropping in which unfertilised crops are direct drilled into degraded pastures may fulfil this role," he said.

"There would also be an added benefit of a grain yield if seasonal conditions were suitable."

The recently-completed project investigated the effects of soil fertility management on the restoration of native perennial grasses in degraded semi-arid grassland.

"When we added the sugar we substantially reduced the growth of annual weeds and grasses which allowed the slower growing native perennials grasses such as curly windmill grass to re-establish," Dr Hacker said.

"While the natives could tolerate the reduced fertility they were not able to cope with the competition from vigorous

nitrogen-loving annuals.

"The overall experiment involved combinations of nitrogen and phosphorus treatments but only the removal of nitrogen was important in promoting perennial reestablishment.

"Phosphorus could not be removed from the soil but the addition of phosphorus had no detrimental effect on establishment."

Dr Hacker said while re-establishing natives seemed to require a reduction in fertility, and competition from annual species, the results also suggested that, once established, the natives might be able to make some growth response to fertiliser application.

"Regeneration and the subsequent management of degraded pastures may thus require different approaches," he said.

"Once native perennials have been restored, some increase in production may be feasible through increased fertility, but any such increase will have to be modest and accompanied by good grazing management if the perennials are to be retained and grasslands not again degraded to annuals."

■ Contact Dr Ron Hacker, Trangie, (02) 6880 8002.



Better managing grazing risk

IT WILL be revealed at the Australian Rangeland Society biennial conference in Bourke this September how grazing chart data can be better used to manage grazing and seasonal risk in rangeland enterprises.

Industry and Investment NSW research leader for forest and rangeland ecosystems, Ron Hacker, and Brewarrina grazier, Graham Finlayson (pictured), have developed a simple spreadsheet to exploit this underutilised tool.

"The spreadsheet uses the stocking history from grazing charts, the stocking benchmark and projected seasonal conditions to estimate

future safe stocking rates," Dr Hacker said.

"The stocking benchmark is calculated from the long-term average annual rainfall and the estimated long-term carrying capacity of the property.

"Using this data and the recorded stocking history we can estimate how long the current stocking rate can be sustained, or look at what seasonal conditions would be required to allow the current numbers to be carried for a particular time.

"By comparing the estimated safe stocking rate with the planned stocking rate on a month-by-month basis, the spreadsheet gives producers the potential to

better manage grazing and seasonal risk at a whole property level."

Dr Hacker said correctly matching stocking rates to overall feed availability was critical at this level.

"That is where this prototype spreadsheet comes into play and with further refinement it could be used to manage individual paddocks or groups of paddocks.

"The spreadsheet provides a simple way of storing monthly data from grazing charts and puts it into a matrix which is more useful to graziers."

Pastoralists can register for the September 26 to 30 conference by calling (02) 6884 4654 or online, <http://www.arsbourke2010.com.au/>



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Free fish and family fun day

Narrandera Fisheries Centre, Buckingbong Road
10 am - 3 pm, Saturday 9 October 2010

I&I NSW Narrandera Fisheries Centre invites you to a free Fish and Family Fun Day to celebrate the contribution that fish make to the environmental, recreational and social values of people in inland Australia.

Come and enjoy:

- fishing competitions
- yabby races

- aquatic touch tank
- casting lessons
- research demonstrations
- hatchery tours
- Lions' train site tours
- guest speaker presentations
- carnival rides
- Yamaha tank fish feeding

BBQ, camp oven, sandwiches and drinks will be available.

Major sponsors include NSW Recreational Fishing Trust, Millbrae Quarries, Bendigo Bank, Diawa and the Murray-Darling Basin Authority.

www.industry.nsw.gov.au/events

Big comeback for pulse crops

WINTER pulse crops have made a big comeback in farm rotations this year.

After many years of being hard hit by the dry seasons and poor farm returns, growers this year have decided it is time to put the pulse back in their farming systems.

Pulse areas across the State this year increased by 34 per cent over what was planted in the 2009 season. Chickpeas and lupins were the two crops that had the biggest jump in sown area, rising 48pc and 37pc respectively.

Spurred by the good potential returns compared with cereals and the early break to the season across NSW, growers have taken advantage of the new pulse varieties that have been released in recent time.

Major investments in plant breeding to overcome many

of the main issues with growing pulse crops has seen Pulse Breeding Australia release two new chickpea varieties suited to NSW farming systems.

Both PBA Slasher and PBA Hattrick have good levels of resistance to the main diseases to chickpeas in NSW. Soon to be released by Pulse Breeding Australia will be new field pea varieties better adapted to NSW growing conditions and lines with improved tolerance to Bacterial Blight.

The two new albus lupin varieties, Luxor and Rosetta, released by I and I NSW have also gained popularity with the rise in lupin areas in the State.

Growers are keen not only to have a high dollar rotation but are looking to get the benefits of having a non cereal crop in the rotation.

Pulses offer growers the opportunity to break disease cycles in cereal rotations, provide the opportunity to build soil nitrogen levels for the following cereal crop and allow rotation of herbicides used in the farming system helping reduce potential weed herbicide resistance problems.

With seasonal conditions being the best seen in NSW for a number of years, growers are reminded not to be complacent with pulse in-crop management, with foliar disease and insect monitoring key activities in the coming month.

Monitoring and early identification of foliar disease in crops or the presence of insect larvae is the key to successful management and maximising any return from applied fungicides and insecticides.