

Fresh purpose for agricultural waste

Agricultural waste can be used to rapidly filter lead from wastewater, new Edith Cowan University (ECU) research has found.

An ECU study found that canola stalks and lupin straw, which currently have no commercial use and are generally burnt after harvest, can strip up to 98.5 per cent of lead from wastewater.

Researchers collected canola stalk and lupin straw from a farm in WA, ground it into a fine powder and added it to water contaminated with lead.

Associate Professor Mehdi Khiadani from ECU's School of Engineering said the powder bound with the lead.

"So when contaminated water is in contact with the powder, it can remove up to 98.5 per cent of the lead in just 30 minutes," he said.

"This work could provide farmers with a way to turn what is currently agricultural waste into a viable and useful product.

"Western Australia currently produces just under 2 million tonnes of canola and about 750,000 tonnes of lupin each year. So this is potentially a huge untapped resource that could be put to use."

Professor Khiadani said one potential application of the technique would be to treat stormwater runoff from roads.

"Stormwater can be contaminated by lead after running over roads. With this technique, we could potentially use agricultural waste to treat this water, which could then be used for other purposes," he said.

Cost benefits

Professor Khiadani said using agricultural waste to treat wastewater compared favourably to current methods of filtering lead.

"Some existing methods, such as membrane filtration, are often prohibitively expensive or do not work with water that has high concentrations of lead," he said.

"In contrast, agricultural waste offers a cost-effective way to remove lead from wastewater."

Professor Khiadani said the next step was to examine if there were ways to further treat the agricultural waste to improve its lead-stripping capacity.

"We believe that by modification of the agricultural waste powder we may be able to improve its properties to remove other pollutants from wastewater, but this needs to be tested," he said.

The research was completed as part of Hanie Hashtroudi's PhD 'Using agricultural wastes to treat lead-contaminated water in Western Australia'.

Below: typical Canola field, Victoria



Kuranda Garden Club

Saturday 3rd November Peter Shanahan will guide a tour of the Cairns Botanical Gardens

Peter has been a significant part of the gardens for many years so comes with great knowledge. Bring plenty of questions with you too.

Meet at the 'main gate' at 2.00pm.

Parking is always a problem so allow yourself plenty of time to find a park and get there. We will have afternoon tea at one of the great coffee shops so there will be **no swap table** and **no need to bring afternoon tea** with you.



Community Nursery and Landcare

Caring for Kuranda's Environment

"by standing on the shoulders of those who've gone before"

Nursery: 284 Myola Road, Mon & Thur 9.00-1.00pm; Sat 10.00-noon; Phone: 4093 8989/4093 8393

KUR-World EIS submissions open to 30th November

For better or worse the KUR-World project will affect all of us, if the project goes ahead as proposed over the next 10 years. Most people care about their immediate future so google KUR-World EIS and follow links on the State Development website or go to your local library to view a hard copy. Please take the time to read at least the executive summary for the project and then dive into chapters that interest you most. You can get assistance making valid submissions via the Kuranda Region Planning Group in their "Have Your Say" help sessions. *See the front page for details.*

Kuranda Envirocare's membership stance has been that this project is too large scale for so sensitive an area environmentally and socially. Early indications from reading the the EIS are confirming this.

Kuranda Envirocare is coordinating an expert's submission which will effectively be a peer review of the EIS. If you know of anyone who works professionally in the field of large projects planning, engineering, and impacts assessment and would like to make a contribution to the analysis, please contact Cathy on 0419 624 940.



Above: Musk Mallow (*Abelmoschus moschatus*) Hibiscus flowering in the nursery now. All forestry supa tubes \$2 per tube.

"What we have—2nd most irreplaceable natural World Heritage area on the Planet"

by Terry Carmichael WTMA — November Thurs 8th — See Date Claimers below

This will be an updated version of the talk which was cut short several months ago. There will be animations and other new material. An excerpt from Terry's talk:

"The International Union for the Conservation of Nature (IUCN) voted the Wet Tropics of Queensland as the second (2nd) most irreplaceable natural World Heritage Area on the planet. So why is the Wet Tropics globally significant?"

This presentation sets out a framework to understand the concept of "Outstanding Universal Value" and starts by discussing the origins of the Wet Tropics. So how does the driest inhabited continent on earth contain one of the world's oldest tropical rainforests?

Terry has spent a lifetime working in the environmental sector, specifically with wildlife for over 37 years and has always enjoyed sharing his passion with others. He works now at the Wet Tropics Management Authority, as a science communicator. He has amazing photos and elements of a video being developed by WTMA. It will be an engaging and inspiring talk.

Date Claimers

- 3rd November (Sat.) 4pm Community Planting Cadagi Drive, Russet Park, followed by free BBQ. Frog habitat project and YCA push back. Meet at site or call Mikhaila Jacoby on 0400 018 332 for more information
- 8th November (Thu.) 7pm. "Our Wet Tropics World Heritage Area". Terry Carmichael will show what makes our Wet Tropics area so irreplaceable in world terms. Kuranda Recreation centre, Fallon Road. Light supper provided
- 14th November (Wed.) 10am Launch of Kuranda tree frog Action Plan in Centenary Park, Kuranda with walk to Jum Rum Conservation park creek crossing. Call Cathy on 0419 624 940 for more details
- Frog Monitoring week 12th-18th November. Monitoring days vary. Check FB page or text Cathy 0419 624 940 or Simone on 0432 216 816
- 18th November (Sun.) 4pm-8pm Frog monitoring call training - 2 hours training via a fun quiz with prizes, light meal and 1 hour field trip after dark. Kuranda Recreation Centre, Fallon Road. Please bring a sense of humour, pen and a few \$\$ for items for sale. FREE and especially child friendly. Call Cathy on 0419 624 940 to book and catering
- Every Saturday morning conservation activities. Meet at nursery 284 Myola Road at 7:30am or Call Cathy on 0419 624 940 for details. Text info@envirocare.org.au to be placed on the regular email list.

**Become a member, borrow the Box Trailer; all plugs catered for.
Ring Garth on 0428 914 380 or Cathy on 0419 624 940**

www.envirocare.org.au

info@envirocare.org.au

