

*Emma Field | November 2, 2011*



Down to business: Matt Kilby demonstrates his tree-planting technique on the McGauran family farm.

**WHEN Matt Kilby first saw the McGauran family's property, near Sale, he saw a lot of work ahead.** But 11 months later, the old bull paddock on the farm near Nambrok has been transformed.

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### AT A GLANCE

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- **Who: Matt Kilby**
- **What: land repair**
- **Why: permaculture for paddocks**
- **Where: Nambrok**

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There are 2km of contours, a dam wall covered in bamboo and 1700 trees all protected with guards.

Matt's company Global Land Repair was enlisted by the McGauran family last year to run a 40ha demonstration site on their 1200ha cattle property to improve fertility and plant trees.

He said the farm was typical of the farming that had gone on for the past 150 years in Australia.

"It has been over-farmed," Matt told a recent field day on the property.

He said the family - Alexa, John, Peter, Julian, Rachel and Daria - asked for a plan for one paddock as a demonstration of what could be done and for others to be able check the progress.

Permaculture principles were used by site project manager Nick Huggins.

There are six stages aimed at bringing water back into the paddock using swales, or water harvesting ditches, built on contour banks planted with trees.

Nick's design addressed the problems of compaction, harsh summer and winter winds plus irregular rainfall on the East Gippsland property, which also suffered from 12 years of drought.

In January, the contours were deep ripped using a Yeomans plough and 600 trees were planted in a shelter belt.

Nick tested compaction levels and the first rip had a penetrometer reading of 200mm and the second six months later went to 400mm.

Contour lines were installed to be formed into swales, a key element of the site.

There are eight swales in the paddock varying in length from 100m to 800m, 2.2km in total.

"The swales are tree planting lines - you can't have successful tree establishment unless you give them a watering system," Matt said.

He said the swales were designed to capture water and move it across the farm from the hills to the pastures.

The swales were mulched using hay and planted with cover crops such as barley grass and oats to hold the banks together and encourage moisture retention.

Last month, 840 trees were planted on the swales including oaks, acacias, melaleucas and shrubs.

Nick said the tree plantings were not exclusively native.

The first plantings of "pioneer" trees on the swales would be followed by trees such as oaks, hazelnuts and chestnuts, which could also offer an alternative income and more importantly build and retain soil fertility.

"We start with fast nitrogen fixing trees and then try to create a forest canopy, so after three to four years start planting out our successional plants," Nick said.

Matt claims to have a 95 per cent tree planting success rate from a system he has developed.

This includes preparing the hole with rock dust to stimulate microbes and root growth and protecting them with a pink tree guards.

He said the pink tree guards were developed in Israel and they stimulated photosynthesis by allowing the plant to absorb more red light.

The tree planting process also included a weed mat made of recycled paper, mulch on top and watering with a special mix of sea minerals and tonics.

The wall of the dam in the paddock had remedial work done to fix erosion and was mulched and planted with cover crops and bamboo, plants with fibrous root systems that wouldn't damage the dam wall and which would provide future stock feed.

Nick said the mulch helped to hold the dam wall together and stopped leaching.

"We have seen the water clean up over the past eight months," he said.

The final stages of the project, designed to run for two to three years, will see compost tea fertiliser spread across the whole site and the swales fenced to allow livestock back on the paddock.

"We will be back in April and I am hoping to get 300 cattle grazed on a timed basis using temporary fencing," Nick said.

Matt said the McGauran farm was the first he had worked on in Victoria. "After many years of farming the landscape won't be repaired quickly," he said.

[http://www.weeklytimesnow.com.au/article/2011/11/02/400711\\_on-farm.html](http://www.weeklytimesnow.com.au/article/2011/11/02/400711_on-farm.html)

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