

Northland case study

Kaero landscape architect Paul Quinlan believes totara can regain its status as an important timber resource. "I'm trying to change a tree that is widely regarded as a weed into an asset," he says. Its weed-like characteristics are precisely why he thinks his plan for a sustainable forest on his 6ha block will succeed. Paul says totara naturally regenerates in pasture because livestock do not like to graze it. "A lot of farmers would think of it as pretty scrubby rubbish, which is typical in much of Northland. I'm trying to change a liability into an asset," he says.

Paul says totara is a very stable timber that keeps its shape and was once widely used for window sash joinery and fence posts. "However, that market is no longer there. We need to create a new market for this timber." However, he says timber from young farm-grown totara is not as durable or the same as old totara. "It's a beautiful light colour with pinky tones and could be used like macrocarpa. For anything above ground, it would be very good," he says.

Paul's property, once part of a dairy farm, is now considered marginal farming country and he hopes to change its use to an innovative indigenous agroforestry system, only lightly grazed by sheep. There are only a few trees on the property, which can be milled. Most are young trees with an average stem diameter of 14cm. The trees will be ready for harvesting at about 60cm. His project is believed to be the first of its kind approved by MAF for a sustainable forest management (SFM) plan. Paul also attracted the attention of his landscape architect colleagues when his project received a New Zealand Institute of Landscape Architects bronze award for sustainable landscape planning.

Paul's skills in silviculture are an important factor. Trees are kept pruned and thinned to achieve the best form and growth rates possible. He has labeled 400 stems and keeps comprehensive records to compare growth rates under different conditions. "I have already found that totara which are pruned, thinned and released from competition, will achieve more than double the growth rate of other trees that have not had this treatment. Even with heavy pruning, some of the most vigorous trees are bettering 1cm a year in diameter."



AgResearch
Mike Dodd
Phone: 07 838 5912
mike.dodd@agresearch.co.nz



Northland Regional Council
Kathy Mortimer
Phone: 09 438 4639
kathym@nrc.govt.nz



Environment Waikato
Peter Singleton
Phone: 07 859 0999
peter.singleton@ew.govt.nz



ensis
David Bergin
Phone: 07 343 5818
david.bergin@ensisjv.com



Manaaki Whenua Landcare Research
Bruce Burns
Phone: 07 858 3728
burnsb@landcareresearch.co.nz



NZ Landcare Trust
Nardene Berry
Waikato
Phone: 07 858 3725
nardene.berry@landcare.org.nz
Helen Moodie
Northland
Phone: 09 436 3170
helen.moodie@landcare.org.nz

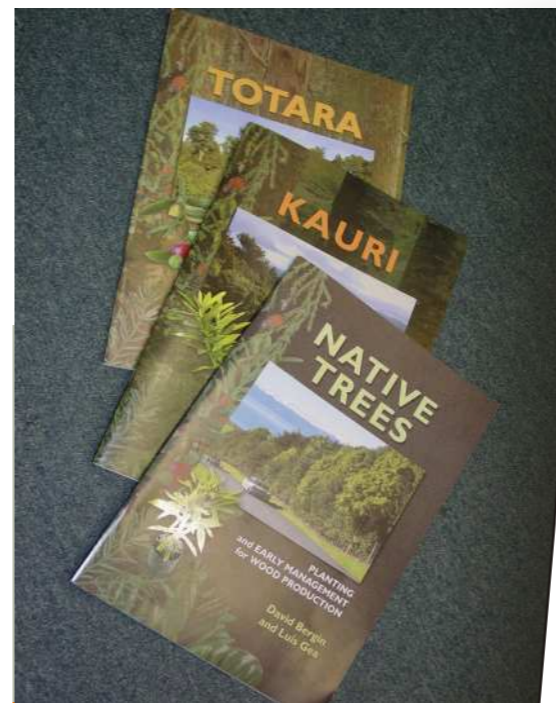
Designed by NZ Landcare Communications



native trees on farms

August 2005 Issue 2

NEWSLETTER



The final publication from this project will continue in the current indigenous tree bulletin series, supported by Tane's Tree Trust.

The first three books in the series are now available for \$15 a copy.

Contact:
ensis
David Bergin,
Phone: 07 343 5818
david.bergin@ensisjv.com

From the project Team:

An introductory note to update you all on where we are at with the Sustainable Farming Fund "Native Trees on Farms" project. In April and May we ran our second series of workshops in Northland and the Waikato to gather the experiences of farmers who were enthusiastically using native trees on their farms. The workshops were held in Paeroa, Otorohanga, Whangarei and Kaero. Thanks to all those who attended and to our local organisers. Top marks for turnout must go to the Kaero crowd! Thank you also to the presenters who came along with new information to share.

We profile the Permanent Forest Sink Initiative in this newsletter again, as it might become more important to get right, now that there seems to have been a shift in New Zealand's carbon credit position.

From those workshops, we now have information to begin the process of putting together a booklet that will capture that wealth of experience and knowledge. The Tane's Tree Trustees were keen to incorporate this publication into the excellent Indigenous Tree Bulletin series that Dave Bergin has spearheaded. This means a big job coming up with a booklet that will meet the high standard already set by Dave. We have contracted Helen Ritchie to oversee the production of this publication.

The workshops also revealed some really interesting examples of native trees being put to good use on farms. One is profiled in this newsletter. Over the next few months we will be visiting some of those people to interview them for our case studies, so that results can be put into a real farm context.

Mike Dodd
Project Leader



www.maf.govt.nz/sff



Tane's Tree Trust
Native Trees for the Future

10 HOT TIPS

Some of the things that the workshop participants had learnt in the course of their experiences managing native trees on their farms:

- ❑ **Research:** The benefits of reading more and talking to other experienced people before starting.
- ❑ **Apply for funding:** There is a growing number of opportunities for support funding from local authorities, trusts etc.
- ❑ **Planning:** Budget costs in each year and keep neighbours informed.
- ❑ **Smarter fencing:** Different types of fences are appropriate in different situations. Consider fence placement relative to the forest edge in terms of likely animal behaviour (e.g. browsing, trampling) and windthrow. Allow for streams flooding and maintain fences.
- ❑ **Pest control:** To improve the condition of existing vegetation, remove bird predators and prevent damage to new plantings.
- ❑ **Focus on key areas:** Prioritise areas, manage a small area well then move to the next area and so on.
- ❑ **Quality plants:** Bite the bullet and pay for good planting stock appropriate for the site and will grow well.
- ❑ **Planting:** Plant at higher densities, use stakes with biodegradable ties where trees are exposed.
- ❑ **Plant aftercare:** Protect the initial investment by doing pest and weed control. Consider the need for easy access to the site for aftercare (e.g. tracks).
- ❑ **Almost everyone would have done more sooner!**

The Permanent Forest Sink Initiative

During our recent workshops, we invited staff from MAF's Indigenous Forest Unit (IFU) to give a presentation on the Permanent Forest Sink Initiative (PFSI). This new initiative will provide landowners with the opportunity to take advantage of the carbon trading market that has arisen from the Kyoto Protocol. Our thanks to Stephen Rolls and Yvette Dickinson for doing these presentations, which are summarised here:

The Kyoto Protocol was activated in February this year, allowing for the creation of carbon credits that are tradable on international markets. In New Zealand, the Climate Change Response Amendment Bill (2005) is now working its way through Parliament and includes provision for creating regulations to credit landowners wanting to create recognised carbon sinks through permanent forest establishment. Hence, the IFU is in the process of developing a system to put this into practise.

A landowner first submits a Forest Sink Management Plan, using an IFU application form. This will be audited and appended to a Forest Sink Covenant, i.e. a contract with the Crown and administered through the IFU, to establish a permanent forest sink, which will be registered against the land title. Qualifying land will have been non-forested as of 1 January 1990 and is reverting back to permanent forest due to a change in management. Under the Kyoto Protocol, forest is defined as "a minimum area of land of 1ha with a tree crown cover of 30% with trees with the potential to reach 5m at maturity *in situ*". Any area that met the criteria before 1990

would not qualify. Management to induce forest includes tree planting (exotics or natives), exclusion of livestock and pest control.

The contract will be in perpetuity but can be changed by mutual consent. Costs associated with the contract will be met by the landowner, including auditing and the need to insure against non-compliance (e.g. fire destroying the forest and therefore releasing the stored carbon). The contract will allow for tree harvesting from 35 years after establishment under a continuous canopy system, which will restrict the size of the harvested area and frequency.

Credits obtained will be held in the landowner's account with the registry, administered by the Ministry of Economic Development. The landowner may then on-sell these carbon credits. The system's economics will be strongly influenced by credits' value, currently estimated at \$10-20 per tonne of carbon dioxide, which would equate to about 0.67m³ of stemwood. The first commitment period for the Kyoto Protocol is 2008-2012 and increases in the forest sink's carbon content over that period will be assessed and credited to the landowner.

Keep an eye on www.maf.govt.nz/forestry/pfsi for developments and you can contact IFU on 07 348 0089 (Rotorua) or 03 379 1941 (Christchurch).



Flax can be used for:

- **Fibre.** Perhaps the most well known application, includes textiles, baskets, carpets and ropes. Less widely appreciated are the fine fibre applications in upholstery, bedding and clothing. The main limitation is the lack of appropriate carding and spinning machinery.
- **Shelter belts.** Flax is excellent low shelter, used extensively in Southland. Easy to establish, robust and relatively fast growing, it needs no protection from sheep once established but will be browsed by cattle, deer and goats.
- **Stock feed.** Cattle commonly strip flax leaves and there is anecdotal evidence of animal health benefits. AgResearch is examining the forage value and anthelmintic properties of the green material from flax leaves.
- **Roadside stabilisation.** Transit NZ uses flax extensively in highway margin revegetation. Landcare Research has demonstrated that flax establishes well by hydroseeding on road cutting faces, which can equally apply to farm tracks.
- **Streambank stabilisation.** Flax is quite tolerant of seasonal waterlogging and may be more suitable than willows, which have problems with sawfly and woody debris blocking flows. AgResearch is examining the role of flax in absorbing nutrient runoff.
- **Medicinal properties.** The gel exuded from the leaf butt has long been esteemed for healing of burns, wounds and eczema.
- **Edible oils.** The seed oil is rich in linoleic acid and has potential as an edible vegetable oil, comparable to sunflower or safflower oil.
- **Hi-tech composites.** An area of huge potential, fibre-reinforced composites are already finding their way into packaging, framing and even automotive parts.



Flax: a versatile plant for farms

Another Sustainable Farming Fund project looking at native plants is "Integrating New Zealand flax into land management systems", led by Liz McGruddy, of NZ Flax Farmers Group. There are obvious links between what the two projects are attempting so we will highlight their progress in this newsletter.

The NZ flax project is designed to assess the opportunities and practicalities of establishing NZ flax (harakeke) as an integrated or special purpose species for on-farm planting, for larger scale environmental management, for iwi land development and to establish regional enterprises based on flax extractives.

There are two scientifically-recognised species of NZ flax, *Phormium tenax* (the lowland or swamp species) and the usually smaller *Phormium cookianum* (the coastal or mountain species). However, Maori recognise many varieties and there are 60 types in the national flax collection at Landcare Research Lincoln.

Potential exists for rejuvenating the cluster of industries using various flax components. Since there are no longer any large scale plantations, smaller blocks of flax appearing on farmland and restoration projects may be valuable in meeting demand.

Find out more information at www.maf.govt.nz/sff/about-projects/land-development-opportunities/03153flax.htm or contact Liz McGruddy on (06) 3777111. She would especially like to hear from anyone with significant areas of flax (planted or natural) on their property.