

Project Update - July to November 2013

Forest Operational Research and Extension

SFF 13-024: Enabling growers to maximise value from planting durable eucalypts

1. Four new trials planted in 2013

NZDFI have four new landowners involved with durable eucalypt trial sites that were planted this spring. These new landowners include:

- NZ Redwood Company, Okota forest, Manawatu.
- Greater Wellington Regional Council, Ngaipu, Wairarapa.
- Warwick Lissaman, Breach Oak, Marlborough.
- Tim Chamberlain, Mt Cass, Canterbury.

It's been an excellent spring with the landowners reporting that most of these new trials have had a good start. Thanks to these landowners for enabling NZDFI to increase the range and diversity of trial sites.



Figure 1: View over part of the new trial site planted by Greater Wellington Regional Council at Ngaipu near Masterton, Wairarapa.



Figure 2: View over the site where new durable eucalypt trials have been planted at Mt Cass in north Canterbury. A stand of radiata pine was previously grown and harvested from the site.

2. Silvicultural management regimes developed

Silvicultural management regimes have been developed which NZDFI will work alongside landowners with durable eucalypt trials to implement. These regimes aim to guide landowners in successfully growing eucalypt posts, poles and sawlogs for processing into a range of durable wood products.

3. Extension Team meeting held

NZDFI's new extension team met for the first time on 6th November 2013 at the Greater Wellington Regional Council (GWRC) offices in Masterton. This team will help with the transfer of the results from the NZDFI trials and related work to people interested in growing ground-durable eucalypts. There was excellent attendance including reps from all of NZDFI's main regions. Despite the wet weather there was an afternoon field trip to a durable eucalypt trial at Rewanui Farm Park hosted by Trimble Foundation and to discuss regimes and form pruning. Thanks to all of those on the team and to GWRC for hosting our meeting.



Figure 3: Paul Millen (left), Sean McBride (centre) and Clive Paton (right) amongst the *E. quadrangulata* growing in the durable eucalypt trial at Rewanui Farm park during the visit by NZDFI's extension team in November.

4. NZDFI pruning workshops timetabled

Five regional pruning workshops have been planned over the summer to transfer the practical skills and knowledge that landowners need to successfully grow eucalypts. These are at:

- Rewanui Farm Park, Wairarapa (already held 2nd Dec 2013).
- Tect Park, Bay of Plenty (already held 6th Dec 2013).
- Pollock property, Gisborne (7th March 2014).
- NZFFA national conference one day workshop and field trip, Marlborough. (15th April 2014).
- Alexander property, Hawkes Bay (30th April 2014).

For more information use this link

http://www.nzdfi.org.nz/documents/NZDFIformpruningworkshopsmediarelease20_11_13.pdf

5. 100 permanent sample plots (PSPs) to be measured

Innovative integrated GPS surveying/ GIS mapping technology and remote data capture have been combined for planning the rapid establishment and measurement of 100 permanent sample plots (PSPs) this summer. PSP's are used to measure and record the performance of the various species within our trials. These measurements underpin the development of growth and yield models under the silvicultural regimes that the landowners implement within their durable eucalypt trials.

Our original plan had been to establish PSP's at all the 2011 demonstration trial sites, however there are some sites that have had insufficient growth this past season to be of sufficient size to allow for diameter measurements. Therefore, PSP's are being established and measured within some of NZDFI's breeding populations as well as some older trials of durable eucalypts planted in Marlborough from 2003-2007. Establishing PSP's at these other sites will ensure that at least 100 PSP's are measured this summer to start providing the basis for NZDFI's growth and productivity modelling work.

6. University of Canterbury summer student scholarships

University of Canterbury (UC), Proseed NZ Ltd and NZDFI are collectively funding two undergraduate summer scholarship research projects over this summer. These projects cover: the growth and survival of dryland tree species from 30 month performance; and a risk assessment of the susceptibility of dryland eucalypts to established insect pests in Marlborough.

Both these projects require the students to undertake summer field work that includes assisting in NZDFI's permanent sample plot (PSP) establishment and measurement programme.

7. **Web site upgraded and new brochure released**

Upgrade of the NZDFI website is underway with the first stage now complete. In addition a new information leaflet about NZDFI has been produced for distribution at pruning workshops and other events. This new information leaflet can also be downloaded from the web site.

http://www.nzdfi.org.nz/documents/NZDFIIntroductorybrochure_Nov2013.pdf

8. **Other events**

The final meeting and field day of Future Forests Research was on 10-11th Sept 2013 in Marlborough. NZDFI was invited to give a presentation while the field day included a visit to durable eucalypt seed stands that were planted in 2005 by Proseed NZ Ltd and Vineyard Timbers Ltd in collaboration with Marlborough Regional Forests.

A presentation on the NZDFI R&D programme is planned at the 'NZFFA Trees for Farms' workshops being held in Marlborough (7th May) and Nelson (8th May) and then the 'Tree for Bees' conference being held at Eastwoodhill Arboretum in Gisborne on 9th May 2014.

NZDFI Tree Improvement Programme

1. **Funding request to MBIE unsuccessful**

In late August 2013 the Ministry of Building Innovation and Employment (MBIE) advised that the collaborative FFR-SCION/NZDFI-UoC research funding proposal lodged by SCION in April 2013 had been declined. This proposal if successful, would have delivered NZDFI \$610,000 per annum from MBIE's 'Emerging Biological Industries' portfolio. MBIE has just released 'Requests for Proposals' for funding in 2014. NZDFI-UoC are considering whether the criteria will allow us to apply.

In October, a presentation was made to the NZ Forest Owners Association's interim levy committee who were responsible for overseeing the establishment of a new forestry commodity levy to fund forest industry R&D. This committee recommended to the new elected levy board that UC R&D work be financially supported, but the Levy fund is small and any support will be modest. Confirmation of this is expected in the New Year.

Other funding options continue to be investigated in collaboration with SCION and other forest industry parties.

2. **Special funding sought for continuing tree improvement work programme 2013/14**

The failure of FFR-SCION/NZDFI-UoC proposal to MBIE required that special funding be sought to ensure essential work within NZDFI's tree improvement programme could continue.

Funding grants were requested of NZDFI partners and supporters with a total of \$54,500 agreed.

Proseed NZ Ltd	\$24,500
Marlborough Research Centre Trust	\$7,000
Vineyard Timbers Ltd	\$5,000
Neil Barr Farm Forestry Foundation	\$4,000
Marlborough Lines	\$3,000
Hawkes Bay Regional Council	\$3,000
Greater Wellington Regional Council	\$3,000
Juken NZ Ltd plant royalty	\$5,000

This very generous support is much appreciated. Those that support NZDFI's tree improvement programme are acknowledged in our publications, workshops and field days.

3. Tree improvement work completed

- *E. bosistoana* breeding population planted 2009 at Lawson's property had twenty plots assessed, pruned, thinned with wood quality samples collected and delivered to UC for analysis. An assessment of the remaining 130 plots is planned for January.
- *E. bosistoana* breeding populations planted 2009 at MDC Cravens road reserve was assessed, pruned and thinned with wood quality samples collected and delivered to UC for analysis.
- *E. quadrangulata* breeding population planted 2011 at Cuddon's property was assessed, pruned and thinned with wood quality samples collected and delivered to UC for analysis.
- Wood Quality analysis of *E. bosistoana* early heartwood to pilot techniques for wood durability assessment. This is being co funded By NZDFI/University of Canterbury through a student undertaking the lab work under a summer scholarship project.
- Data management, mapping and updating breeding populations geo database
- Project financial management and NZDFI's executive management & science team meetings.

The NZDFI team remain committed to our goal of delivering genetically improved eucalypt planting stock to growers that will produce hardwood of superior durability and strength in as short a timeframe as possible.



Figure 4: Ruth McConnochie working in *E. bosistoana* planted in 2009 at MDC's Cravens Road site with wood samples lying alongside a fallen stem.



Figure 5: An area of *E. bosistoana* planted in 2009 at the Lawson's property following thinning, pruning and wood sampling.



Figure 6: Disc cut from four year old *E. bosistoana* at MDC's Cravens Road site and stained pink with dimethyl orange to reveal early heart wood development.



Figure 7: The freshly cut stump of a 40 year old *E. bosistoana* tree growing in the Marlborough District Council's Wither Hills farm park. The tree was felled to provide wood samples to assist in developing UC's durability testing techniques for this species.

4. New breeding trials planted in 2013 under SFF 13-024.

3,900 *E. cladocalyx* seedlings propagated from ALRTIG/CSIRO seed orchard seed were planted in a mass selection trial by the NZ Redwood Co. at Okota forest near Hunterville this spring. JNL have planted 10,000 *E. camaldulensis* seedlings propagated from WA Forestry Products Commission seed orchard stock as a mass selection trial alongside the other NZDFI durable eucalypt trials planted at Ngaumu forest.

Anyone wanting further information should contact:

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SUPPORTERS:

