



Theme Leader: Keith Raymond



HARVESTING THEME UPDATE

Issue Number: 6

Date: July 2009

Summary

The FFR Harvesting Theme has completed its first full year of research to 30 June 2009, and we recently held the Q4 2008/09 review of the research programme.

Highlights of the year have been:

- Development of a Harvesting Research Strategy in July 2008
- Formation of a Harvesting Theme Technical Steering Team, with representation from industry members, to oversee and direct the research programme
- A full Theme Members meeting in March 2009 in Rotorua with international collaboration between researchers from Australia, New Zealand and Italy.
- Communication of current research through the Harvesting Theme Updates (4 published during the year)
- Publication of one Project Report, 8 Technical Notes and two Technology Watch reports on to the FFR website during the year
- Development and approval of the 2009/10 FFR Harvesting Research Programme

RESEARCH OUTPUTS FROM 2008/09

The following is a list of Technical Notes that have been published during the 2008/09 year:

- Vol. 1 No. 1: Logging Productivity Monitoring
- Vol. 1 No. 2: Uptake of Human Factors and Ergonomics Research – A Review of the Literature
- Vol. 1 No. 3: A Piece Counter for Monitoring Production
- Vol. 1 No. 4: Sauer-Danfoss Controllers in Haulers
- Vol. 1 No. 5: Predicting Skidder Payload Using Grapple Openness – Pilot Study
- Vol. 1 No. 6: Synthetic Rope for Use in Cable Logging – A Review of the Literature
- Vol. 1 No. 7: Felling and Bunching on Steep Terrain – A Review of the Literature
- Vol. 1 No. 8: Use of Tension Monitors to Estimate Payload

All these reports are available from the FFR website. To access the website, go to <http://www.ffr.co.nz/> Click on Members Area and enter your username and password.

Under Harvesting and Logistics Theme there is a range of folders:

- LIRO Reports (503)
- Presentations – Harvesting (1)
- Technical Notes (8)
- Technical Reports (1)
- Technology Watch (2)
- Theme Updates (5)

Also available on the FFR website in the LIRO Reports folder is the Forest Roding Manual. This is a very useful reference on all aspects of road and landing construction. Alternatively you can purchase your own copy from Scion: phone 07 3435899 or email enquiries@scionresearch.com

If you need help with the FFR website or have forgotten your login, please call Veronica Bennett on 07 9217246 or email: veronica.bennett@ffr.co.nz.

CURRENT RESEARCH PROGRAMME

Real Time Productivity Data Collection

Work is continuing on “On Board Monitoring Systems” and “Tools for Estimating Yarding Distance” on cable systems and reports on these projects will be available soon.



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Further work will continue on the conversion of hauler control systems to Danfoss electro-hydraulic controllers, and further development of a Production Display Unit (PDU) for entry/display of payload data (hauls, butts and pieces).

Uptake of Human Factors Research

Sophie Hide from COHFE gave a presentation on the final stage of the project, which involved interviewing industry specialists and logging workers to assess their perceptions of the impact of implementation of previous human factors research.

As a result of this work a number of recommendations have been made and a full report detailing these has been published and will be available to members. A short Technical Note summarising the key findings is also in preparation.

Logging Technology Watch

Progress has been made during the Quarter in improving technology transfer across the industry, mainly through the FFR website at <http://www.ffr.co.nz>. The second issue of the Harvesting Technology Watch, monitoring overseas developments in technology was published.

Contact has been maintained with the CRC for Forestry in Australia, who have proposed a collaboration with Australian forestry companies with the Benchmarking project. Before this goes ahead we would like to have this system fully up and running (see Benchmarking).

One regional Technical Meeting was held in Rotorua in conjunction with FICA to promote the work in this Theme to harvesting contractors and forest company staff. Further Technical Meetings are scheduled during the year.

One example of new technology from outside forestry that is being investigated is the

application of robotics to forestry. A Technical Note is due out soon on this subject.

The Business Management for Logging handbook has been substantially revised by Mark Blackburne of Blackburne Group Ltd:

<http://www.blackburnegroup.co.nz/> and is in the final stages of editing. The Handbook and Costing Template will be available on the FFR website or for sale from FFR.

Future Felling

Progress to date includes a field study of Ross Wood's steep terrain bunching operation in the Nelson area; and two production studies of operations bunching for hauler extraction.

A report of the analysis of harvest plans and profiles over a sample of New Zealand cable logging conditions to determine potential for bunching based on terrain, piece size and hauler payload is also in preparation. The objective is to determine what areas could have been bunched, and given the piece size and terrain, whether bunching would have increased payload.

Forest Industry Benchmarking

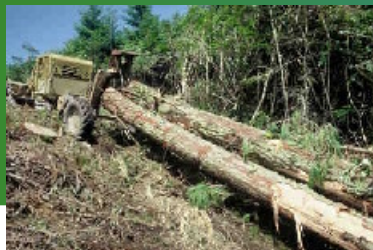
The benchmarking system, to enable each member company to measure its performance against the New Zealand forest industry average, has been developed by Dr Rien Visser, Director of Studies in Forest Engineering at the University of Canterbury School of Forestry.

Rien reports that the data entry system is up and running and the first entries into the database were received in early March. In addition to companies being able to submit harvesting production data via spreadsheet, a website has been set up for FFR members to input their data directly on a confidential basis. Use this link:

(<http://www.foresteng.canterbury.ac.nz/survey/>),



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There are now 60 entries in the data set. Even with the small sample to date Rien believes we are getting some useful values for the various logging productivity related parameters.

The aim is to increase the data set over time to 100 data entries (representing about 1 million cubic metres of logging production or around 5% of the national annual cut) before we publish a technical Note on NZ 'benchmark' averages.

So we are looking for all FFR Harvesting Theme members to participate in entry of production data at the Harvest Area level, to not only increase the sample size but get better representation from all companies and regions across New Zealand.

GOVERNMENT FUNDING FOR HARVESTING

As reported in the latest Member's Update (July 2009) FFR has recently submitted an Expression of Interest to the Foundation for Research, Science and Technology (FRST) for funding a new partnership (or Consortium) between industry and equipment manufacturers in New Zealand.

With the increase in harvest in New Zealand on steep country, and the demise of all the North American manufacturers of the cable yarders used in New Zealand, there is a need to encourage local manufacturing of equipment suitable for New Zealand conditions. There is also a real need to find ways to significantly reduce the cost of harvesting on this country through innovation and new technology, to improve productivity, reduce labour requirements, and improve the safety of operations.

2009/10 FFR HARVESTING RESEARCH PLAN

Ideas for next year's research programme that were internally generated by Scion researchers were presented and discussed at the Theme Members Meeting in March 2009.

Since then the initial proposed ideas have been ranked by industry members in terms of priority and developed into a programme with expected outcomes, milestones and costs.

This has resulted in the finalised 2009/10 research plan which was approved by the TST in June and presented to the FFR Board at their meeting on 19th June.

The final Research Plan (with ranking in brackets) comprises the following:

PROGRAMME ONE: Productivity, Cost and Profitability

- Automated Monitoring System Development (5)

PROGRAMME TWO: People, Human Factors and Training

- Crew Best Practice – Costs and Productivity (2)
- Best Practice and Training for Cable Operations (4)
- Optimising Work Organisation for Maximum Performance (6)

PROGRAMME THREE: Harvesting Technology Watch

PROGRAMME FOUR: Mechanised Steep Country Harvesting

- Mechanisation of Steep Slope Harvesting (1)

PROGRAMME FIVE: Forest Industry Benchmarking

- Benchmarking Cost and Productivity of Harvesting Operations (3)

If you would like to receive a copy please contact FFR.

Keith Raymond