



Theme Leader: Keith Raymond



HARVESTING THEME UPDATE

Issue Number: 8

Date: February 2010

Summary

The second quarter of the 2009/10 FFR Harvesting research year has been reviewed by your Technical Steering Team. It has been a busy quarter of work with most of the projects in the current Work Programme underway, and a research workshop to develop the Primary Growth Partnership "Innovative Harvesting Solutions" business plan. The following is a summary of the Q2 2009/10 review undertaken in February.

Highlights of the quarter are :

- Publication of five Technical Notes; and one Technology Watch report to the FFR website
- Submission of Business Plan "Innovative Harvesting Solutions" to Primary Growth Partnership for harvesting research funding.

RESEARCH OUTPUTS FROM Q2 2009/10

The following is a list of reports that have been published during Quarter 2:

- Technology Watch Number 3 October 2009: 2009 Council on Forest Engineering Conference
- Technical Note Vol. 2 No. 5: A new method for bunching trees on steep terrain
- Technical Note Vol. 2 No. 6: Benchmarking harvesting cost and productivity
- Technical Note Vol. 2 No. 7: Productivity impacts of bunching for hauler extraction
- Technical Note Vol. 2 No. 8: Comparison of methods for estimating harvesting payload
- Technical Note Vol. 2 No. 9: Effect of piece size on felling machine productivity

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. Click on Harvesting and Logistics Theme and you can access all these publications. If you need help with the FFR website or have forgotten your login, please call Veronica Bennett on 07 921 7246 or email: veronica.bennett@ffr.co.nz.

PRIMARY GROWTH PARTNERSHIP (PGP) FUNDING FOR HARVESTING RESEARCH

The FFR Harvesting theme has been busy developing the business plan for "Innovative Harvesting Solutions" for approval of the PGP Investment Advisory Panel.

A workshop was held on 9th December in Rotorua to clarify the goals, scope and objectives of the Programme. The Business Plan, which details seven projects aimed at achieving a step-change improvement in steep country harvesting costs, and eliminating lost time accidents in the felling, breaking out and unhooking phases of cable operations, was submitted for approval prior to the deadline of 1 February 2010.

The Programme will develop innovative solutions to the challenges of steep country felling, breaking out and extraction, and will support the local manufacturing of new forestry equipment suitable for New Zealand conditions.



HARVESTING THEME UPDATE

UPDATE ON RESEARCH PROGRAMME

Reducing Unproductive Time through Better Monitoring Systems

The focus on developing better tools to capture data for productivity monitoring continues with an investigation of “on-board monitoring systems”. A Technical Note is in preparation that investigates the potential to integrate the various productivity monitoring tools in to a prototype system.

Delays in identifying co-operators in the project to install a Danfoss electro-hydraulic control system in a hauler. If you are interested in this Project, please contact Tony Evanson at Scion on 07 343 5458.

Best Practice and Training for Cable Operations

This project is part of the wider ACC/NZ Forest Owners/Dept of Labour project on breaking out on steep slopes aimed at identifying elements of best practice, and contributing towards positive behaviour change in the task of breaking out in cable operations. The focus of the project has been validated by examining accident statistics from the Forest Owners IRIS database. Over the last five years (Jan 2004 - Dec 2008) there have been 203 Lost Time Injury accidents (LTI's) in cable operations and breaking out has comprised over 35% of these LTI's. The project will use the state-of-the-art camera equipment used to study tree fallers in 2008 to examine the work practices of a sample of operators around the country, specifically focussing on retreat distances.

Benchmarking Cost and Productivity

A Technical Note written by Rien Visser at the School of Forestry, University of Canterbury has summarised the initial sample of 83 harvest areas used to benchmark performance of the New Zealand forest industry in 2009.

There are now 96 harvest areas in the Benchmarking database. The database was made available to all participating FFR members

to identify and analyse their own data, and six FFR member companies have done so.

The project will now commence with collection of 2010 harvest areas as they are completed. If you have production data at the Harvest Area level and wish to participate in this benchmarking project, you can either enter your data directly into the website set up for FFR members on a confidential basis using this link: <http://www.foresteng.canterbury.ac.nz/survey/>, or you can send your data to Rien Visser at rien.visser@canterbury.ac.nz.

Crew Best Practice – Costs and Productivity

This study, following up on the development of the Benchmarking database, examines the characteristics of high performing operations. By analysing data from the database of high productivity, individual companies have been approached for their approval for FFR to study them in more detail.

The aim is to identify what factors contribute towards the high performance of specific harvesting operators in specific harvesting conditions.

Uptake of Human Factors Research

The full Project Report detailing this work has been completed and has been published.

The project detailed industry perceptions of the impact of implementation of previous human factors research, including successes (technical interventions such as the widespread adoption of PPE, and greater use of mechanisation; or individual developments such as practical guidance in fatigue reduction measures).

The general lack of progress found in many of the interventions relating to key work organisation and management factors such as work scheduling (inconsistent taking of breaks, long work days for machine operators) will form the basis of a new project in the current work programme (see below).



HARVESTING THEME UPDATE

Optimising Work Organisation for Maximum Performance

Arising from the Uptake of Human Factors project, it was identified that work organisation initiatives (including job design, alternative communication methods, and job rotation) were poorly understood and applied. Long, uninterrupted work periods for machine operators and the widespread adoption of one single personal break (“smoko”) per day, appear as workforce issues across the industry.

This project will identify the barriers, bottlenecks and factors influencing effective work organisation and scheduling within logging operations, including the effect of this on physical and psychological workload. FFR acknowledges the financial support of ACC in this work.

Business Management for Logging

The 2nd Edition of the Business Management for Logging handbook published last year has sold over 150 copies already. FFR acknowledges the assistance of the Forest Industry Contractors Association (FICA) in revising and distributing this handbook.

The cost of the handbook (including the updated LIRO costing model on CD) is: \$50.00 (+GST) for members of FFR and FICA; and \$100.00 (+GST) for non-members. If you would like a copy, please call Veronica Bennett on 07 921 7246 or email: veronica.bennett@ffr.co.nz for an order form.

Mechanisation of Steep Slope Harvesting

Two Technical Notes have been published on field studies of steep terrain bunching operations in Nelson, Rotorua and Gisborne.

Further work analysing harvest plans and profiles over a sample of New Zealand cable logging conditions has been completed to determine potential for bunching based on terrain, piece size and hauler payload. This report will be published shortly.

A further study of a Valmet self-levelling feller-buncher is planned in Forests NSW in Australia.

Application of Harvesting Technology

Arising from the Technology Watch undertaken over the last year or so, a study has been proposed to investigate fuel consumption in steep country logging operations.

A regional Technical Meeting is planned for Gisborne on Thursday 25th February, 2010 to promote the work in the Harvesting theme to contractors and forest company staff.

Two FFR Member Meetings are scheduled for:

- Rotorua on Thursday 18th March 2010, Venue: Scion, Rotorua and
- Dunedin on Tuesday 23rd March 2010, Venue: Mercure Leisure Lodge, Dunedin

Please put these dates in your diary NOW!
Draft Agenda to be released Wednesday 17th February 2010.

