The New Zealand & Australian Experience with Central Tyre Inflation

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Eliminating Log Truck Rollovers
Graph 1: Actual and Forecast Harvest from New Zealand’s Planted Forests

- **Actual**
- **Forecast**

- Actual then base cut
- Early cut
- Late cut

Year ending 31 March

Recoverable volume (million m³)
Tyre Development

• 1846 – Robert William Thomson invented and patented the pneumatic tire
• 1888 – First commercial pneumatic bicycle tire produced by Dunlop
• 1889 – John Boyd Dunlop patented the pneumatic tire in the UK
• 1890 – Dunlop, and William Harvey Du Cros began production of pneumatic tires in Ireland
• 1890 – Bartlett Clincher rim introduced
• 1891 – Dunlop's patent invalidated in favor of Thomson's patent
• 1892 – Beaded edge tires introduced in the U.S.
• 1894 – E.J. Pennington invents the first balloon tire
• 1895 – Michelin introduced pneumatic automobile tires
• 1898 – Schrader valve stem patented
• 1900 – Cord Tires introduced by Palmer (England) and BFGoodrich (U.S.)
• 1903 – Goodyear Tire Company patented the first tubeless tire, however it was not introduced until 1954
• 1904 – Goodyear and Firestone started producing cord reinforced tires
• 1904 – Mountable rims were introduced that allowed drivers to fix their own flats
• 1908 – Frank Seiberling invented grooved tires with improved road traction
• 1910 – BFGoodrich Company invented longer life tires by adding carbon black to the rubber
• 1919 – Goodyear and Dunlop announced pneumatic truck tires
• 1938 – Goodyear introduced the rayon cord tire
• 1940 – BFGoodrich introduced the first commercial synthetic rubber tire
• 1946 – Michelin introduced the radial tire
• 1947 – Goodyear introduced the first nylon tires
• 1947 – BFGoodrich introduced the tubeless tire
• 1963 – Use of polyester cord introduced by Goodyear
• 1965 – BFGoodrich offered the first radial available in North America
• 1967 – Poly/glass tires introduced by Firestone and Goodyear
• 1968 – United States Department of Transportation (DOT) numbers required on new tires in USA
• 1974 – Pirelli introduced the wide radial tire
• 2005? – Michelin introduces the Tweel
Uncontrolled tires are over-inflated for 75% of the cycle.

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<th>Tire Pressure (psi)</th>
<th>Typical resource road hauling</th>
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<td>CONTROLLED TIRES</td>
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Conclusions

Where the Rubber Meets the Road
Return on Investment

• Operators will only fit CTI equipment when they can see they will get a ROI.

• If its left to the operator, they will generally only fit Single Zone Systems (Drive axles only)

• Low Impact Vehicles should be paid a premium to recognise the increased capital cost and the reduced environmental damage.
Transfer Costs

• CTI is often seen as a way of reducing Roading and Harvesting Costs

• Often this is nothing more than transferring the costs onto the Transport Operator
How To Increase The Use Of CTI Technology

• Make the use of Low Impact Vehicles part of the requirement of the Harvesting & Transport Contract

• Have a rate schedule that reflects the increased costs of using Low Impact Vehicle Technology
How To Increase The Use Of CTI Technology

• Technology Transfer. Educate the decision makers (and Greenies), about the benefits of Low Impact Vehicles
Other Suggestions

• Allow for a reasonable time frame for vehicles to be equipped

• Set the equipment standards high

• Set tyre pressure standards for Low Impact Vehicles and ensure they are used
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