

# In our Contemporaries

## What's New in Forest Research

- No. 220 Weed control increases radiata pine productivity  
No. 221 Pruned stand certification  
No. 222 Satellite navigation in forestry  
No. 223 Oversowing: The race to occupy forest sites  
No. 224 Development of brown stain in sawn timber cut from water-stored logs

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## New Zealand Journal of Forestry Science

Water potential and subsequent growth of *Pinus radiata* seedlings: Influence of lifting, packaging, and storage conditions

Balneaves J.M., Menzies M.I. Vol. 20(3): 257-267 (1990)

Where soil conditions are dry, irrigation of nursery beds can help minimise the early afternoon water deficit. Seedlings lifted early in the morning or late in the afternoon, with their roots dipped in water, and with overnight cool storing, gave the best growth after planting.

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Response of young *Pinus radiata* to cultivation and fertiliser near Motueka, New Zealand

Mead D.J. Vol. 20(3): 268-278 (1990)

Heavy broadcast applications of superphosphate improved growth rates during the 11-year study period by two or three times over the untreated plots. However, even heavy rates were unable to maintain phosphorus concentrations at non-limiting levels for more than a few years after application. There was no response to nitrogen in the absence of phosphorus and boron.

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Selection of special-purpose species: Effect of pests and diseases

Nicholas I., Hay E. Vol. 20(3): 279-289 (1990)

The main special-purpose timber species being grown in New Zealand for high-quality end-uses are Australian blackwood, black walnut, macrocarpa, lusitanica, *Eucalyptus botryoides*, *E. saligna*, *E. fastigata*, *E. delegatensis*, and *E. regnans*. Although these species are attacked by a range of wood- and foliage-damaging insects and fungi, none is severe enough to restrict a species' growth, lower its wood quality, or limit its planting.

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Triclopyr – The forest managers' alternative to 2,4,5-T?

Balneaves J.M., Davenhill N.A. Vol. 20(3): 295-306 (1990)

Two triclopyr formulations were evaluated at various rates sprayed over radiata pine, macrocarpa, and Douglas fir, and the likely impact on gorse regrowth after initial land clearing was assessed. Post-plant spraying with triclopyr is feasible if rates do not exceed 0.6 kg/ha. Triclopyr should be used in preference to triclopyr + picloram as it is less damaging to tree seedlings and gives more effective gorse suppression for the first year after tree planting.

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Linear programming and related approaches in forest planning

Garcia O. Vol. 20(3): 307-331 (1990)

Topics covered include the use of standard Linear Programming packages, the prospects of decomposition and partitioning methods, the potential for utilising oldest-first and other cutting priorities, the explicit use of time structure in Dynamic Linear Programming and Optimal Control Theory algorithms, and the Hoganson-Rose procedure and its relationship to Lagrangian relaxation.

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AUTOSAW system for sawing simulation

Todoroki C.L. Vol. 20(3): 332-348 (1990)

A PC-based system, comprising three programs, has been developed to simulate the sawing of pruned logs. Timber grades, conversions, and values may be produced for both individual logs and batches of logs. The number of logs that can be processed in any given batch is unrestricted. Simulations may be performed either interactively or as part of an automated process.

## FRI Bulletins

No. 168 New Zealand radiata pine and Douglas fir: Suitability for processing.

Crown D.J. (1992)

\$50.00 + GST

The main topics covered are –

*Wood quality*: anatomy, physical properties, mechanical properties, effect of management practices on wood properties, comparison with radiata pine and Douglas fir from other sources, comparison with other species;

*Suitability for products*: roundwood, sawmilling, composite board products, pulp and paper, energy and chemicals (radiata pine).

No. 178 The market for solid wood and wood-based panels in the Republic of Korea.

Revington-Jones L. (1992)

\$62.00 + GST

This major study, carried out at the New Zealand Forest Research Institute and in Korea, assesses market opportunities for the New Zealand forestry sector, considering: Korean demographic and economic projections, Korean forest resource availability, changing structure of forest products trade, impact of Government policies on the forestry sector, domestic supply and demand trends for wood products, forestry product price trends in Korea, construction and furniture as two major end-uses.

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## NZ Journal of Hydrology

Hydrological impacts of converting tussock grassland to pine plantation, Otago, New Zealand

Fahey, B.D., Watson, A.J. Vol. 30(1): 1-15

After a three-year calibration period, 207 ha of one catchment (310 ha) were planted at 1250 s/ha in 1982. No change in water yield was observed until late 1988. In 1989 and 1990 run off was 100 mm less than that from the adjacent control catchment, representing a 20% reduction in water yield. The peak flow rates of small storms are most affected by afforestation, showing an average reduction of 50% for the 1988-90 period.