

The research programme is divided into four major areas:

- environmental research
- human
- logging systems
- transportation

A number of projects of interest are listed below under the major headings.

Environmental

The emphasis of the environmental work is on the identification, development and promotion of cost-effective harvesting techniques that meet environmental requirements. Major projects include the management of riparian areas, a variety of trials dealing with measurement and amelioration of soil erosion and compaction, the rehabilitation of landings and spur roads, and the utilisation or disposal of harvesting residues. Roding work includes investigations into low impact methods, prefabricated bridges, and documentation of best management practices.

Human Factors

The objective is to assist industry to provide a safer and healthier work environment without adversely affecting productivity. This is achieved through a number of projects which include the ongoing collection and analysis of accident statistics, an assessment of current accident follow-up procedures, the development and promotion of protective equipment, an analysis of the forestry and logging workforce in Otago/Southland, an assessment of the effectiveness of Polytechnic training for new entrant loggers, measurement of the physiological workload of logging tasks, and a programme to improve value recovery of logging operations.

Logging Systems

These continue the studies into improved felling and delimbing practices, and identifying and developing and improving the productivity of mechanical harvesting systems, cable systems, and ground-based systems. It also includes business management programmes to develop the skills of contractors in the areas of planning and financial management.

Transportation

The objective of the transportation programme is the evaluation of a range of material handling options to reduce costs and increase profitability. This includes modelling work on truck scheduling as well as ongoing work into the economics of trucking, truck performance and evaluation of technological developments in the transportation industry.

COMING EVENTS

1993 NZIF Conference

Theme - "Managing New Zealand's Forests for Future Markets".

Century Theatre, Napier, May 12-14, 1993.

Details on inside back cover of November 1992 NZ Forestry.

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14th Commonwealth Forestry Conference

Theme - "People, the Environment and Forestry - Conflict or Harmony".

Malaysia will be hosting the 14th Commonwealth Forestry Conference at the Shangri-La Hotel, Kuala Lumpur from September 13 to 18, 1993.

The objective of this conference is to show how forests in tropical and temperate regions can be managed in a sustainable way for the benefit of present and future generations to provide opportunities for economic development, to promote the well-being of rural people, and to conserve the forest as a habitat and for other environmental benefits. It will provide an opportunity for the exchange of views among Commonwealth forestry personnel and enable them to see for themselves the application of sustainable forestry development in the tropics.

There will be a pre-conference tour from September 8-12, 1993 to enable the participants to see forests managed under the traditional Malayan Uniform System and the current management practice of the Hill Dipterocarp Forests under the Selective Management System. Sarawak and Sabah, the eastern regions of Malaysia, will be the venues for the post-conference tour from September 19-23. There will also be a Half Day Tour and Accompanying Persons Programme during the conference.

A Post-Conference Technical Attachment Programme will also be held from September 19-25.

Registration fee: SUS350.00.

For further enquiries and more details about the conference, contact:

The Secretary General CFC-14
Forestry Department Headquarters,
Peninsular Malaysia
Jalan Sultan Salahuddin
50660 Kuala Lumpur
Malaysia
Telephone: (03) 298-8244
Facsimile: (03) 292-5657

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1993 Conference - Institute of Foresters of Australia Inc.

Theme - "Australasian Forestry and the Global Environment".

The IFA is holding its 15th Biennial Conference at Alexandra Headlands in Queensland, Australia from September 19 to 24, 1993.

The contact for registration is Peter Francis, IFA Conference Convener, GPO Box 1697, Brisbane, Queensland 4001. Telephone (07) 234-0105, Facsimile (07) 234-1200.

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Forest Industries 1994 International Conference and Exhibition

Theme - "Quality".

Forest Industry 1994 will combine a two-day conference, three-day exhibition and a two-day in-forest harvesting demonstration.

Contact: Antonia Mason, Special Events Manager, Forest Industries 1994, PO Box 5544, Wellesley Street, Auckland. Telephone: (09) 358-5455, Facsimile: (09) 358-5462.

BOOK REVIEWS

CONIFERS

Conifers: Morphology and Variation, by Mirko Vidakovic. Published 1991 by Graficki Zavod Hrvatske. Price \$NZ217.

This comprehensive work is said to be based on the author's belief that conifers should be considered in terms of their evolution and variation, conditioned by genetics, the natural environment and

man's activities that lead to the development of new types, races, cultivars and hybrids. Originally published in Croatian, the book has been expanded and revised for this English language edition.

The book covers over 2150 species and lower taxa, which are presented alphabetically by genera from *Abies* to *Widdringtonia*. It is very well presented and lavishly illustrated with over 450 drawings and photographs, many of them in colour. Distribution maps are provided for over 100 species.

It is a pity that this book was published at the same time as the first volume of *The Conifer Manual* by Humphrey

Welch, and that neither author was aware of the other. They do not cover quite the same ground but there is a great deal of overlap nevertheless and if one's interest is primarily in horticultural cultivars, Welch's text is more detailed.

The other authoritative text with which this book must be compared is Gerd Krussman's 1985 Manual of Cultivated Conifers which in fact deals with nearly all the recognised species and most of the cultivars: 2376 in total. Here, the area of overlap is even greater. It would be fair to say that Vidakovic's descriptions of the commoner Eurasian and North American conifers are at least as detailed as Krussman's and are more clearly presented. However, although neither deals adequately with the southern hemisphere conifer genera, Vidakovic is particularly skimpy in his treatment. Even Dallimore and Jackson, which is very dated now, is more authoritative on *Agathis*, *Dacrydium*, *Podocarpus*, *Phyllocladus*, *Libocedrus* and the smaller southern genera.

There is no doubt that this new book is a pleasure to use, and that it should be available to professional foresters and botanists. It is a pity that it has to compete for space on library shelves with at least two other recent authoritative texts and a plethora of other good books on this group of plants.

John Allen
School of Forestry
University of Canterbury

PROPAGATION

Rapid Propagation of Fast-growing Woody Species, edited by F.W.G. Baker and published by C.A.B. International, U.K. in 1992. The retail price is £30.

This book is a collation of the papers presented and the recommendations of a conference held in 1989, organised by CASAFA (Committee on the Application of Science to Agriculture, Forestry and Aquaculture) of the International Council of Scientific Unions. The papers discuss propagation of a range of tropical and temperate species, particularly *Eucalyptus*, *Acacia*, *Musa* (bananas), and bamboos. Conventional cuttings and tissue culture propagation systems are discussed, and also some aspects of clonal plantations.

There are 12 chapters in the book of 125 pages, although only six of them exceed 10 pages. Most of the chapters

concentrate on tissue culture rather than cuttings propagation methods, as these are envisaged as the methods most suitable for large-scale propagation for clonal forestry and offering technology for germplasm storage and germplasm exchange between countries.

A chapter by V.J. Hartney and J.G.P. Svensson covers tissue culture of Australian tree species, and this gives a very good background on general tissue culture methods for tree species, particularly eucalypts, and some of the advantages and problems with tissue culture. There is also a comprehensive chapter on tissue culture of *Musa* species (bananas and other plantains) by J. Schoofs, and two chapters on propagation of bamboos by conventional propagation and tissue culture methods by I.V.R. Rao, I.U. Rao and F.N. Roohi, and I.U. Rao, I.V.R. Rao, and V. Narang. The two chapters on bamboo propagation could have been combined into a single chapter to avoid repetition.

Implementation of a clonal forestry strategy has a number of problems to be resolved, including clonal testing, maintenance of juvenility and deployment of clones in mixtures or as single clone stands. These issues are discussed in a number of chapters, particularly in two interesting chapters, one by H.J. Muhs and one by L. Zsuffa. Muhs discusses the laws governing the marketing of clonal material in Sweden and Germany. In Germany, the use of bulk propagated, untested material is not allowed, and the clonal composition of any plantations of a major forestry tree species must consist of at least 500 clones in a mixture. Hopefully this situation will not occur in New Zealand, where vegetative propagation by cuttings is used to bulk up scarce high genetic quality seed, and clonal forestry is envisaged to require around 100 clones probably planted in single clone blocks.

The chapter on tissue culture propagation of Australian species, and the chapters discussing clonal forestry will be of interest to foresters who wish to become aware of what clonal forestry might offer in the future.

Not all of the species discussed will be of interest to New Zealand foresters, and unfortunately many of the chapters are too brief to cover much discussion of the implications of high multiplication rates and clonal forestry. However, readers will become aware of some of the issues involved, and some of the problems still to be researched before clonal forestry becomes a reality.

Mike Menzies
NZ Forest Research Institute
Rotorua

FUNGI GUIDE

An illustrated guide to Fungi on Wood in New Zealand, Auckland University Press, \$39.95, 424 pages. By Ian Hood, New Zealand Forest Research Institute, Rotorua.

Ian Hood is well equipped to put together this comprehensive field guide on forest wood fungi, having worked on the subject for 23 years as a scientist.

Most foresters and forestry staff will confess shortcomings to their knowledge on the subject. Here is their chance at last to fill the gap.

The book has as very useful introduction section covering the biology and ecology of wood decay fungi. This is a preliminary to a detailed identification key that does not get you caught up with technical terminology.

The format is usually two pages to each fungus – one giving a detailed description that includes usual hosts and habitat. The technical descriptions are scientific, using understandable terminology. These are enhanced by references to excellent descriptive drawings by the author on the adjoining page. 48 colour photographs add to the drawings.

This is a book essential for your shelf or one that can be taken out with field equipment. It is an excellent student textbook and many of us will wish we had this reference to New Zealand fungal flora many years ago.

Dave Kershaw

HANDLING CHEMICALS MADE EASIER

Richmond Company ICI Crop Care Research Group has won a top Australian industry award for development work to make the handling of concentrated agricultural chemicals a much easier, accurate and safer procedure.

The technology developed by the group allows agricultural chemicals to be made in the form of water dispersible granules, which are very user-friendly compared to conventional powder or liquid formulations.

ICI Crop Care New Zealand Manager Mr Shane McManaway said development of water dispersible granules was a breakthrough which makes the use of agricultural chemicals a clean and safe process.