Phil: For your information
Marty 2/1

ultrastructure, the mechanism of wood formation by trees, variation of structure and abnormalities in wood.

- Properties. Detailed chapters address density and specific gravity, hygroscopicity, shrinkage and swelling due to gain or loss of moisture, mechanical, thermal, acoustical and electrical properties, and wood degradation — its durability as affected by bacteria, fungi, insects, marine borers and other destructive agents.
- Utilization. This section deals with all products of primary manufacture, namely roundwood products (poles, posts), lumber, veneer, plywood, laminated wood, particleboard, fibreboard, pulp and paper. Air — and kiln-drying, preservative treatment and adhesives for gluing wood are also covered.

Also discussed are products of secondary manufacture such as furniture, chemical products, use of wood as a source of energy, and other forest products such as bark, foliage, and pine resin. Hundreds of photographs, including many electron photomicrographs, and other illustrations help clarify all aspects of wood as a material.

The author, Professor Tsoumis, is Professor of Forest Utilization at the Aristotelian University in Greece. A Fulbright Scholar, Dr Tsoumis has had extensive research and teaching experience in the United States and Europe.

The books is a comprehensive reference book, published by Van Nostrand Reinhold in New York. It is available in Australia through Thomas Nelson Australia.

Tsoumis: Science and Technology of Wood. ISBN 442.23985.8 $131.95.

INCOME PROSPECT FOR QUEENSLAND FARMERS

There is opportunity for Queensland farmers to boost their income through tourism! A Cairns based tour operator, Outback with Birch, is planning 4WD tours focused on Queensland tropical tree crops and agroforestry.

The tours will be promoted world-wide in conjunction with the International Tree Crops Institute. Outback with Birch is seeking from farmers who have properties suitable for international and local tour groups to visit.

"We will be paying farmers fees for their hosting of our tour groups," said Director George Birch. "Preference will be given to farms on which tropical tree crops are integrated with mainstream agriculture or livestock production — such as sugar or cattle."

Contact: Outback with Birch, (070) 313-222. P.O. Box 7577, Cairns, Q. 4870.

"FIRE BEHAVIOUR IN EXOTIC PINE PLANTATIONS OF AUSTRALASIA"

By Martin E. Alexander, PhD Candidate, ANU.

Funded by the Forest Industry including AFG.

The main part of the study is concerned with the conditions required to initiate and the spread of crown fires in exotic pine plantations. The effect of pruning to 5m is thought to reduce the intensity of fires and their size to 1/4.

The author undertook two study burns to determine fire behaviour in pine plantations — an A.C.T. stand of unpruned Pinus ponderosa and in Western Australia a stand of pruned and unpruned Pinus pinaster and these will be related to behaviour from records in wild fires over the period 1962-1990 in plantations. Data collected from these experiments are still being analysed and used to test models so far developed.

The author is organising the samplings of foliage in all species from all states. He has found little if any variation in moisture content seasonally, but greater differences by species so that each species needs to be studied separately.

There are other studies to fill in gaps in data for some species for biomass relationships with tree diameters; crown heights at different ages and spacings etc.

Comment by M.J.H.:

The author hopes to complete his studies in April 1992. He has probably correctly, rejected the use of miniature testing in wind tunnels, and has approached the study on the basis of requiring full scale "real" data.

It will provide valuable information on a very pertinent problem which is very difficult to measure through the lack of enthusiasm of owners to provide experimental test sites.

Table 1
Semi-theoretical Comparison of Fire Behaviour in Pruned versus Un-pruned Exotic Pine Plantation under High Fire Danger Conditions

Fire Description and characteristics	Stand A Pruned to 5m	Stand B Unpruned
Type of fire	Surface	Crown
Forward spread (m/h)	300	600
Fuel consumed (t/ha)	18	28
Head fire intensity (kW/m)	2700	8400
Flame height (m)	2	12
Fire area at 1 hr (ha)	4.86	19.44
Fire perimeter at 1 hr (km)	.83	1.65
Percent perimeter contained	91%	55%
Spotting distance (m)	< 200	up to 2000

RADIATA FORESTS AND AGROFORESTS — CORRECT NUTRITION VITAL

The success of Radiata pine in agroforestry has been largely due to the maintenance of adequate nutrition and health of plantings.

Forest nutrition studies have shown that analysis of the foliage tissue can be reliably used to assess the nutrient status of pine, and so determine the need for fertiliser applications to improve tree growth. Deficiencies of nutrients such as phosphorus, zinc and boron are common in Victoria, and severely retard growth, if left untreated. It is now common practice to use tissue analysis to determine the fertiliser requirements of pine plantations.

Tissue analysis of pine foliage is now being made available to private and corporate growers by AG-PLUS, the soil and plant tissue analysis service of the State Chemistry Laboratory (Victorian Department of Agriculture). Interpretation of the results, with recommendations for treatment, will be provided by scientists of the Department of Conservation and Environment. The preferred time for Radiata foliage sampling is during the months of May and June.

Further information from AG-PLUS, (03) 412-6100.