



Conservation and  
Land Management  
Western Australia

August 1989

# WURC NEWS

## FURNITURE FROM FORESTS

*Research to develop methods to process small eucalypt regrowth logs commercially is continuing at CALM's Wood Utilisation Research Centre (WURC).*

The previous WURC News in February 1989 referred to the Small Eucalypt Processing Study. Funding totalling \$4.63 million for this study was obtained from the Federal Government, the State Government and arrangements between the State and the timber industry. Each contributed one third of the funding.

The study will be completed by June 1990. It includes research into stockpiling, sawmilling, seasoning, wood properties, product development and marketing.

### WURC

The WURC is located at Harvey, about 140 km south of Perth. The staff are based in three different centres, and

details are given below. The WURC has a Management Committee of Phil Shedley, Dr Graeme Siemon, Des Donnelly and Gary Brennan. This committee is responsible to a Departmental Policy Panel.

Close liaison with industry is important in making sure that the research is needs-based. There are Technical Planning Groups with industry representatives in:

- sawmilling
- seasoning
- processing
- computing
- marketing
- wood properties.

While the Small Eucalypt Processing Study gave the impetus for forming these groups, this system will be ongoing. In addition, WURC staff are involved with the WA Furniture Industry Association and the WA Softwood Products Association.

The WURC is a Registered Research Agency, and eligible companies can claim 150 per cent tax deduction for research done for them by WURC.

The WURC Manager, Phil Shedley, is available for discussion of research needs at the Department of CALM, 50 Hayman Road, Como 6152, telephone (09)367 0333.

### VALWOOD - REGISTERED TRADE NAME

The CALM publication *LANDSCOPE*, has a detailed article on VALWOOD in its winter 1989 issue.

The name VALWOOD comes from value-added wood, and refers to a system of processing face and edge-glued panels constructed from 10 mm thick sections of regrowth eucalypt timber. The panels can be used for furniture timber in a range of sizes in multiples of 10 mm thickness. They allow cutting of several pieces of a furniture component from the panel, with much reduced wastage.

A survey of furniture component sizes used by Perth manufacturers (see page 3 of this Newsletter) was an important part of developing the system.

In addition a consultant has completed a business plan which shows that the technique is commercially viable.



---

## WURC STAFF

The staff involved with WURC and their areas of interest are:

COMO

**Phil Shedley,**

Manager

**Graeme Siemon,**

General utilisation research and administration

**Elaine Davison,**

Mycology/pathology

**Trevor McDonald,**

Engineering

**Terry Jones,**

Marketing

**Diane Gibson,**

Modelling

**Mark Tucek,**

Resource evaluation

**Francis Tay,**

Mycology/pathology

**John Dorlandt,**

Finance

**Glenda Godfrey,**

Clerical

HARVEY

**Gary Brennan,**

Administration and seasoning

**Brett Glossop,**

Seasoning and biometrics

**Peter Newby,**

Wood processing

**Lex Mathews,**

Wood processing/seasoning

**Wayne Hanks,**

Seasoning

**Steve Raper,**

Sawmilling

BUNBURY

**Des Donnelly,**

Timber inspection and administration

**Kevin White,**

Sawmilling

## WURC REPORTS

Four more WURC Reports have been published since February 1989. They refer to Small Eucalypt Processing research and to WURC research in other species.

## USING PINE TIMBER

Radiata pine (*Pinus radiata*) and maritime pine (*P. pinaster*) are the major softwoods grown in Western Australia. This report gives general

information to growers and users e.g. wood properties and the effect of management practices. Utilisation after sawing or preservative treatment is discussed.

(WURC Report No. 7 by G.R. Siemon)

## AGROFORESTRY GROWN PINE

This report gives information on the graded recoveries of radiata pine grown in an agroforestry stand, in a fuel reduced buffer in a CALM forest, and conventionally-grown pine. When milling structural timber pieces from the agroforestry stand, more docking was required to upgrade pieces to F5 stress grade than was needed for timber from the conventionally grown,



An elegant dining room chair manufactured from jarrah VALWOOD.



---

although recoveries were similar. (Grades higher than F5 are not normally separated out in commercial practice in Western Australia). Agroforestry-grown logs produced similar recoveries to the other treatments when appearance grade boards were cut.

(WURC Report No. 8 by G.R. Siemon, K.J. White and A.B. Thomson)

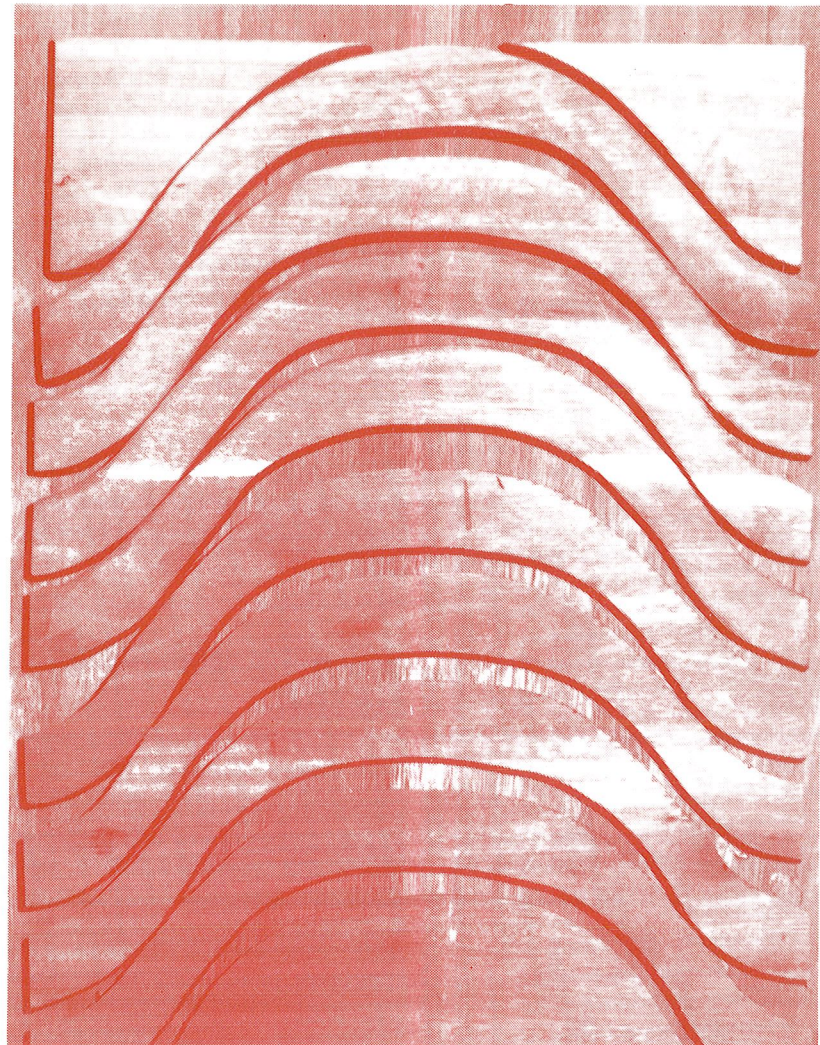
## STRENGTH OF PENCILLED JARRAH

Pencilling, which is a regular flecking in mature jarrah, is generally associated with attack by *Fistulina hepatica*. This study showed that pencilled and normal wood had similar strength properties (modulus of rupture, modulus of elasticity, and maximum crusting strength). In addition, preservative treatment with furnace oil, using the Boultonising method, had no effect on strength in either pencilled or normal wood.

(WURC Report No. 10 by L. Siamos and G.R. Siemon).

## FURNITURE WOOD SURVEY

Ten major furniture manufacturers in the Perth area were surveyed to get data on solid timber size requirements for constructing furniture from jarrah. Fifty-five different pieces of furniture were included. The maximum solid timber length required was 2 200 mm, but 84 per cent of pieces were less than 1 000 mm. Ninety-five per cent



were under 25 mm, and seventy-five per cent had a width less than 100 mm.

These data are very useful in developing the use of furniture blanks to improve the efficiency of using jarrah. The results would be applicable to other species.

(WURC Report No. 9 by Don Challis)

**Furniture blanks allow cutting of several curved components to reduce waste.**



---

## OTHER REPORTS

In addition, several technical papers for more limited distribution have been prepared.

### TUNNEL KILN DRYING OF MATURE JARRAH

This paper describes a trial using a modified version of a CSIRO designed tunnel kiln. Each bundle of timber is placed in at right angles, and air is blown rather than sucked from the dry end to the green end. The air flow is straight instead of sinuous. Jarrah boards dried from green to fibre saturation point (fibre saturation point is the moisture content at which cell walls start to dry out, after all moisture is lost from the cell cavities) in four to six weeks during the winter, with very little surface checking. However, the hot dry summer conditions resulted in considerable checking.

(by G.K. Brennan and B.R. Glossop.)

### H T DRYING OF WOOD FOR CHARCOAL

In drying wood quickly for more efficient production of charcoal, average moisture content of green jarrah could be reduced quickly at either 150°C or 120°C. However, steep moisture gradients are set up in the wood, resulting in degrade by internal collapse and surface and end splitting.

High temperature drying to reduce moisture content before charcoal manufacture could be economic.

(by D.J. Donnelly, L.R. Mathews and W.R. Hanks.)

### H T DRYING AND BOW AND SPRING

This study confirmed that high temperature drying is efficient when the timber's moisture content is below fibre saturation point, with no degrade. Bow decreased while spring stayed similar in drying from 16 to 8 per cent.

(by W.R. Hanks.)

### 'VIVA 20' MOISTURE METER

This report describes tests on a capacitance-type meter that does not require probes driven into the wood. The meter was compared with a standard Bollman resistance-type meter. With green wood and at fibre saturation point, both meters were inaccurate. At equilibrium moisture content (about 12 per cent), the Viva 20 gave better results. Variation in wood density causes inaccuracies.

(by B.R. Glossop.)

### SAWMILLING REGROWTH MARRI

This trial discusses sawing of a widespread Western Australian species whose use has been limited by kino

(gum) veins. The overall recovery of 29 per cent after docking was acceptable,

(by K.J. White.)

Research into softwoods is also being carried out.

### PINE SAWMILLING STUDY

Heavy thinning increases the proportion of sawlogs to particleboard logs considerably. Sawn graded recoveries from heavy thinning, light thinning and unthinned treatments were 39, 30 and 32 per cent respectively,

(by G.R. Siemon and D.J. Donnelly).

Copies of the reports are available from WURC, Department of Conservation and Land Management, Harvey WA 6220, (phone 097 29 1913) or from Dr Graeme Siemon at Department of Conservation and Land Management, PO Box 104, Como WA 6152 (phone 09 367 0333).

*This is the second issue of a regular newsletter which will be produced by the Department of Conservation and Land Management.*