TREATED IS IT

by Graeme Siemon

In recent years pine timber, with an aesthetic green colouring, has made a great impact on the outdoor furniture/playground equipment market. This pine has been treated with copper-chrome-arsenic preservative (C.C.A.), which gives it that characteristic colour. Although widely used in Australia for the last thirty years, its increasing popularity on the domestic market causes many people to wonder: is it necessary, and is it safe?

Why is it necessary to treat timber? Our resources of naturally durable timber species have declined, and less durable species can only be used if they are protected against fungal and termite attack. Such treatment extends the service life of treated timber considerably, especially when the timber is used in contact with the ground.

C.C.A. is a 'water-borne' preservative, in which the components of copper, chromium and arsenic are carried into the timber in solution. Copper is a fungicide, arsenic an insecticide, and the chromium 'fixes' these two elements in the wood. The treatment is done in a steel cylinder. An initial vacuum is drawn, the cylinder is flooded with preservative, and pressure at about 1400 kPa (200 p.s.i.) is applied. A final vacuum removes any excess preservative. The chemicals take about three weeks to 'fix' in the timber, after which they cannot be leached. The word arsenic strikes dread into the heart of most people, but traces of arsenic occur naturally in many of our foods, for example, seafoods. Any traces of arsenic on the surfaces of C.C.A. treated timber would be negligible.

A white powder, or perhaps crystals, may be seen on the surface of C.C.A. treated timber during the weeks after treatment. This effect is called 'blooming'. The powder is sodium sulphate, which is not harmful. Most suppliers would keep stocks of C.C.A.-treated timber in their yards for six weeks after treatment, after which there should be no further blooming. The powder can be removed easily using a bucket of water and a damp cloth. A new formulation of C.C.A. preservative now available avoids this 'problem' completely.

Because the chemicals are fixed in the wood, C.S.I.R.O. scientists have now estimated that a person would have to ingest between 10 and 20 cubic centimetres (roughly the size of a matchbox) in one day to achieve a toxic dose. A fatal dose would need 10 times more.

People are right to be concerned about the safety of any chemical. Australian Standards specify the re-

TIMBER — SAFE?

quirements for treatment plants in using timber preservatives. These include wearing gloves and washing hands before eating or smoking.

Anybody using C.C.A. treated timber must take particular care in two cases. When sanding wood, wear protective masks and clothing, and keep your work area well-ventilated. This applies to the sanding of any timber, treated or untreated, because particles can affect the lungs. Avoid burning offcuts of C.C.A. treated timber, because it releases arsenic into the air. Under no circumstances should the wood be used in stoves or barbeques. If burning in the open air is unavoidable, dispose of the ash at a proper disposal site.

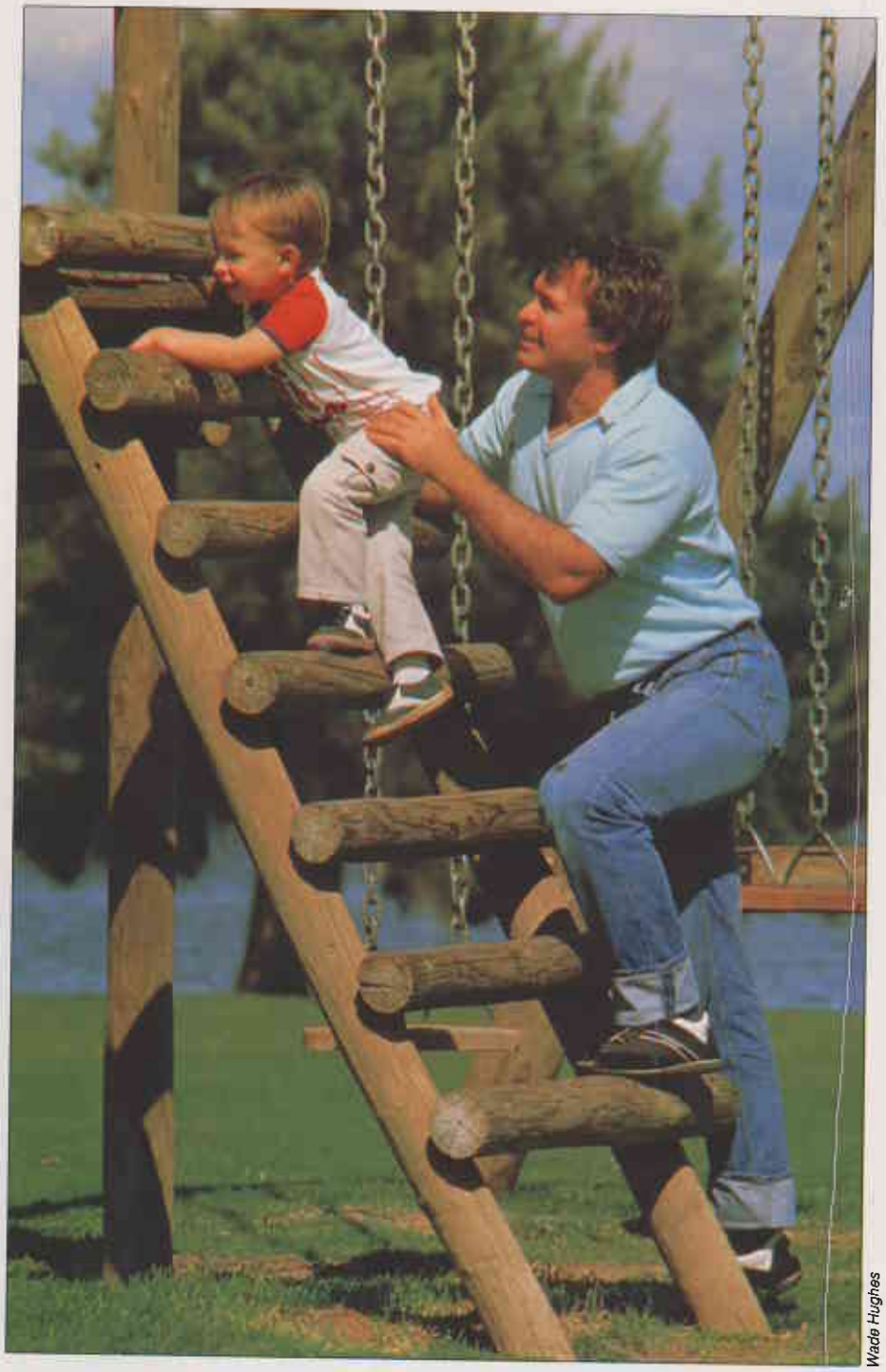
In general, C.C.A. treated timber will provide good service. Because the chemicals are fixed in the timber, it is safe when treated correctly.

The Test of Time

Untreated Pine - CSIRO durability class 4 - less than eight years life in the ground, but more likely two to three years.

Jarrah - CSIRO durability class 2 - 15-20 years in the ground.

Treated Pine - 40-50 years in the ground, substantially more above the ground.



Wade Hughes

LANDSCOPE

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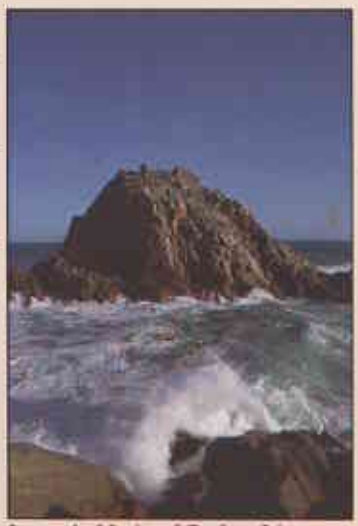

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Cover Photo
Trees loom out of the mist at Amelup near the Stirling Ranges. Photograph by Robert Karri-Davies.

EDITORIAL

The economic development versus environmental protection debate is a constant feature of our society today. No-one will disagree that our environment needs protection; there is also no doubt that Australia must improve its economic performance if we are to maintain our living standards and enjoy the natural environment which we are blessed with. This *Landscope* describes a project which combines environmental and economic advantages.

Australia's import bill for forest products is $1.7 billion. Of this a considerable portion is paper which is made from eucalypt fibre. A Perth scientist was the first person to demonstrate that eucalypt could be made into paper, yet it is other countries that have capitalised on this discovery. For example, Brazil, Portugal, Chile, South Africa and Spain have established over 3 million hectares of highly productive eucalyptus plantations. Australia, home of the genus Eucalyptus, has only 40 000 hectares of eucalyptus plantations.

Despite our late start, there is no reason why W.A. cannot share some of the rewards which would come from capitalizing on the increasing world demand for high quality paper. We have the land and climate to grow the trees and the skills to do it competitively.

Widespread afforestation of the south-west is also an essential prerequisite to ameliorating salination and eutrophication of our waterways. It is unlikely that afforestation of the magnitude required could be achieved unless it is commercially driven. The production of trees for paper could provide the opportunity to carry out the afforestation program necessary for improving the environment at no cost to the State.

It would be ironic if the world demand for the much maligned woodchip provided the solution for what would arguably be two of the most serious environmental problems in south-western Australia.