

# NOTES

## A NOTE ON THE DURABILITY OF KEMPAS TREATED WITH COPPER NAPHTHENATE

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Kempas (*Koompassia malaccensis*) timber is classified as non-durable in natural durability trials in Kepong, Malaysia. However, kempas treated with creosote (absorbtion  $14.2 \text{ kg/m}^3$ ) gives a services life of over 35 y (Daljeet Singh 1987). Trials on durability of kempas with CCA are underway and the results will be published elsewhere. This note is on the durability of kempas treated with copper naphthenate.

Table 1. Service life of kempas

Years	No. of samples destroyed	
	Upper ground	Lower ground
1 - 10	0	0
11	10	0
12	11	0
13	12	1
14	13	4
15	15	9
16	15	12
17	19	17
18	-	19
19	-	20
20	20	-
Average service life (y)	12.7	15.3
Average service life for both treatments (y)	14	

Fo Forty pieces of kempas (50 x 50 x 600 mm) were treated with 3% copper naphthenate solution, solvent kerosene, using the open tank method. The average absorbtion was  $7.98 \text{ lb/ft}^3$ . After treatment, 20 pieces each were put in the upper and lower grounds according to the method described by Jackson (1975).

Half yearly inspections were made and failures were recorded. The results are as in Table 1.

None of the test stakes were destroyed in the first ten years. The average service life of stakes in the upper ground was 12.7 y while that in lower ground was 15.3 y. The average service life for kempas in both treatments was 14 y. The average dry salt retention for the timber (as calculated from absorbtion) was  $1.09 \text{ kg/m}^3$  of elemental copper ( $3.8 \text{ kg/m}^3$  of copper naphthenate). The retention of elemental copper when timber is treated with CCA at  $16 \text{ kg/m}^3$  is  $1.23 \text{ kg/m}^3$ . Thus, the average retention of elemental copper in the last stakes was 11.3% lower than that recommended for timber in ground contact.

Asmenthod earlier, only the average retention for the stakes was recorded. It can thus be assumed that there was a variation in retentions. This variation in retentions would account for the early failure of some of the test stakes which had lower retentions. It would be reasonable to assume that if all the stakes had retentions of  $1.23 \text{ kg/m}^3$  or more of elemental copper, the service life would have been much longer.

Termites were responsible for damage towards the latter part of the experiment. It would be interesting to study the effect of adding an insecticide to the treatment. In general, it can be concluded that copper naphthenate is effective in protecting the test stakes of kempas for over 14 y.

### References

- DALJEET SINGH, K. 1978. Durability of creosote treated timber. *FRIM Occasional Paper* No. 5.  
 JACKSON, W.F. 1975. The Durability of Malaysian timber. *Malaysian Forester* No. 20 : 20 - 46.

## REVIEWS

### FUELWOOD AND CHARCOAL PREPARATION : AN ILLUSTRATED TRAINING MANUAL ON SIMPLE TOOLS AND TECHNIQUES FOR SMALL-SCALE ENTERPRISES.

International Labour Office Geneva, International Labour Organisation 1985, pp – 119, with 53 illustrations. ISBN 92–2–100540–2.

This illustrated training manual on fuelwood and charcoal preparation is an extended and revised version of a previous ILO publication entitled Charcoal Making for a Small-scale Enterprise, by D.E. Earl and A. Earl. It describes the efficient handling and use of simple tools applicable in small-scale charcoal production.

The book starts with a very short but comprehensive introduction to the common technical terms and definitions on wood and fuelwood. This is then followed by a number of chapters on tools and equipment for wood harvesting and preparation.

There is also another chapter on the theory of carbonisation before using these concepts in relation to improved carbonisation techniques (such as the earth pit, earth mounds, different types of brick kilns and portable steel kilns).

Towards the end, the book deals with complementary role of charcoal briquetting and the use of fuel-saving stoves. The marketing aspect of charcoal is also reasonably well covered in the first two pages.

The book with its simple small-holders drawings and illustrations is an excellent material for those who do not have much theoretical knowledge on carbonisation. It is also extremely useful to charcoal extension workers in stressing important points and concepts during the process for training. Perhaps what is lacking in the book is the bibliography of publications for further reading and reference. History of local institutions working on improved charcoal technology for future contact and advice, would also be helpful.

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## ANNOUNCEMENTS

### REGIONAL SYMPOSIUM OF RECENT DEVELOPMENT IN TREE PLANTATIONS OF HUMID/SUBHUMID REGIONS OF ASIA.

DATE: JUNE 5 – 9, 1989.

- OBJECTIVES:
- i) To bring together researchers, managers and other professionals dealing with tree plantations from countries of humid/subhumid regions of Asia.
  - ii) To exchange information and identify problems and future research needs related to tree plantations.
  - iii) To formulate common strategies for proper development of tree plantations in the region.

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## NEWS

### INTERNATIONAL UNION OF FORESTRY RESEARCH ORGANISATIONS (IUFRO) CONFERENCE OF THE FOREST PRODUCTS DIVISION.

VENUE: SAO PAULO, BRAZIL.

DATE: MAY 15 – 20, 1988.

RECOMMENDATIONS AGREED UPON:

- i) Adopt the guiding principle that research is to improve the utilisation of timber re-

sources is an essential element of forestry and should be carried out forward to improve the contribution of forests to social and economic advancement of the people of the world.

- ii) Recognise the importance of international cooperation in research on the basis of partnership in missions that complement and reinforce each other.
- iii) Join forces within the framework of the International Council for Forestry Research (INCOFORE) to strengthen research in developing country institutions through partnership with others in both developing and industrialised countries.

Proceedings of the conference can be purchased from:

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I.P.T. Cidade Universitaria  
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For more information, contact:

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NG, F.S.P. 1983. Ecological principles of tropical lowland rain forest conservation. Pp. 359 – 375 in Sutton, S.L., Whitmore, T.C. & Chadwick, A.C. (eds.). *Tropical rain forest: ecology and management*. Blackwells, Oxford. 498 pp.

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