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Laboratory Evaluation of the Termiticidal Efficacy of Copper HDO[1]

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ABSTRACT

A laboratory no-choice termite bioassay was conducted to evaluate the ability of copper HDO (CX-A or copper xyligen) to protect radiata pine (*Pinus radiata* D. Don) wood samples from attack by two subterranean termite species, *Reticulitermes speratus* and *Coptotermes formosanus*. A series of sapwood samples were pressure treated with either 0.25%, 0.50%, 0.75%, or 1.00% copper HDO solution. Samples treated with equivalent concentrations of a benchmark preservative, CCA-C, were used as treated controls. All samples (including controls) were subjected to an artificial weathering schedule before the bioassay. The samples were exposed to 30-day *R. speratus* tests and 3-week *C. formosanus* tests. Copper HDO was shown to deter termites from significant feeding on the treated wood. At a retention of 5.8 kg/m^3 (treated with 0.75% solution) or higher, the mass loss from termite feeding did not exceed 3% for both the 30-day *R. speratus* tests and the 3-week *C. formosanus* tests. At each of the retentions tested, copper HDO performed comparably with equivalent retentions of CCA-C; however, field data are needed to validate these laboratory results. The preliminary findings are that copper HDO pressure treatment has potential as a viable method of protecting wood from attack by both termite species tested.

Keywords : *Termites, Laboratory evaluation, Copper HDO, Reticulitermes speratus, Coptotermes formosanus*

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