ON THE USE OF WOOD PROTECTION BY MEANS OF ELECTRO OSMOTIC PULSING TECHNOLOGY AGAINST SUBTERRANEAN TERMITES

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Keywords: Electro osmotic pulsing technology, subterranean termites

ABSTRACT

Wood protection in the last century has been mainly based on chemical treatments. Additionally, the type of construction of wooden buildings and the choice of wood species plays an important role.

Degradation of wood is not only caused by fungi or bacteria but also by insects. Termites have been a potential risk to wooden structures not only in the warmer regions of our continents but also beyond the regions of their natural habitat due to transport of wood.

A new environmental friendly wood protection system has been tested. Wood protection by means of electro osmotic pulsing technology can preserve wood in service without using any chemical protection at all. The system can easily be installed and is extremely low in maintenance costs.

The technology (EOP) has been preliminary tested on Scots pine sapwood (*Pinus sylvestris*) against subterranean termites (*Reticulitermes grassei*) in the laboratory. Two choice and non-choice tests were carried out using different initial wood moisture content, 4 weeks of exposure and 6 replicates per variable.

The results show heavy growth of mould fungi on wood samples with higher moisture content that probably contribute to higher termite mortality on wetter samples. EOP treatment strongly reduced the development of moulds and gave variable results in terms of termite survival and feeding.

Further testing is needed to better understand the possibilities of this method to subterranean termite control.