Johann Heinrich von Thünen-Institut

Universität Hamburg

COST Action FP 0802

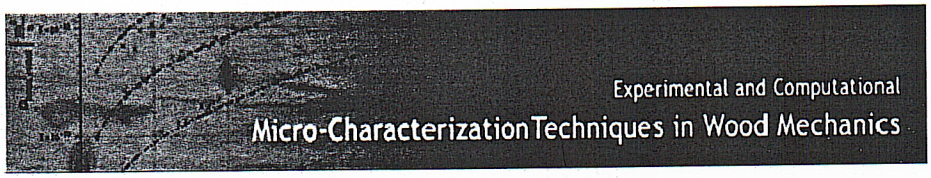
EXPERIMENTAL AND COMPUTATIONAL MICRO-CHARACTERIZATION TECHNIQUES IN WOOD MECHANICS

WORKSHOP

„WOOD STRUCTURE/FUNCTION-RELATIONSHIPS"

5-8 October, 2010
Hamburg, Germany

Action FP0802



HYDROXYL RADICAL-SCAVENGING CAPACITY OF CELL WALL FROM NEEDLES OF SERBIAN SPRUCE *PICEA OMORIKA* (PANCIC) PURKYNE

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The hydroxyl radical is a very reactive oxygen species (ROS) with a short half-life, and is considered to be responsible for much of the biological damage inherent to free radical pathology. This study investigates the ability of cell walls isolated from *P. omorika* needles, during four seasons, to scavenge $^{\bullet}OH$ radical using the Fenton reaction as an "$^{\bullet}OH$ producing" system. Electron paramagnetic resonance spectroscopy using spin-trap DEPMPO was applied to detect hydroxyl radical. The capacity of the cell wall of Serbian spruce needles to scavenge hydroxyl radical is the largest in the winter and autumn. The cell walls after alkaline hydrolyzis by NaOH showed higher ability to scavenge hydroxyl radicals than the total cell walls. The data suggest that hydroxyl radical-scavenging capacity of cell wall depends on the amount of lignin and polysaccharides components, but also on the type and quantity of transversal bonds between cell wall polymers in Serbian spruce needles.