

Wood Acclimation to Disturbed Environments : the WADE project (2013-16)

Involved labs :

Etude des Ressources Forêt Bois (LERFoB) Ecologie et Ecophysologie Forestière (EEF)
Etudes et Recherches sur le Matériau Bois (LERMaB) Biogéochimie des Ecosystèmes Forestiers (BEF)

Several research groups in Nancy for a thorough set of wood sciences

Wood eco-biomechanics

Are wood variations adapted to wood functions in the living trees?

Journal of Experimental Botany
doi:10.1093/jxb/erw279

REVIEW PAPER
Integrative biomechanics for tree ecology: beyond wood density and strength

M. Fournier^{1,2,*}, J. Dlouhá^{1,3}, G. Jaouen¹ and T. Almeras¹

Wood dendroecology

Are wood variations robust and reliable statistical predictors of climate and other environmental factors ?

Contents lists available at SciVerse ScienceDirect

Agricultural and Forest Meteorology
Journal homepage: www.elsevier.com/locate/agrformet

ELSEVIER

Divergence in latewood density response of Norway spruce to temperature is not resolved by enlarged sets of climatic predictors and their non-linearities

Tony Franceschini^{1,2,*}, Jean-Daniel Bontemps^{1,2}, Vincent Perez^{1,2,3}, Jean-Michel Leban^{1,2,4}

Wood formation dynamics

How do successive processes (division and enlargement, thickening, maturation) make variable wood ? How are these processes driven by signals as temperature, hormones, mechanical forces ...

Journal of Experimental Botany
doi:10.1093/jxb/erw257

RESEARCH PAPER
Generalized additive models reveal the intrinsic complexity of wood formation dynamics

Henri E. Cuny^{1,*}, Cyrille B.K. Rathgeber¹, Tristan Senga Kiessé¹, Felix P. Hartmann¹, Ignacio Barbeito¹ and Meriem Fournier²

Wood quality statistical models

Annals of Forest Science (2012) 69:119-123
DOI 10.1007/s13595-012-0185-4

EDITORIAL NOTES

The CAQ network in France: 15 years of brainstorming and cooperative work to connect forest resources and wood quality through modelling approaches and simulation software

Daniel Auclair - Gérard Nguyen

Including the prediction of wood quality in growth and yield models used by forest managers, using empirical equations which link wood properties to cambial age and tree ring width

Wood molecular biology and physiology

Understanding cellular and molecular processes involved during wood formation in response to controlled factors

Journal of Experimental Botany, Vol. 62, No. 10, pp. 3675-3686, 2011
doi:10.1093/jxb/erw047 Advance Access publication 28 February, 2011

RESEARCH PAPER
Cellulose and lignin biosynthesis is altered by ozone in wood of hybrid poplar (*Populus tremula* × *alba*)

Nicolas Richet¹, Dany Ailif¹, Françoise Huber², Brigitte Pollet², Jacques Barvois¹, Rana El Zein¹, Catherine Lapierre¹, Pierre Dizengremel¹, Patrick Perre² and Mireille Cabane^{1,*}

Xylosciences and PTEF technical facilities

Wood industrial properties

Industrial Crops and Products
Volume 41, January 2013, Pages 71-77

Antioxidant activities, total phenolic contents and chemical compositions of extracts from four Cameroonian woods: Padouk (*Pterocarpus soyauxii* Taub.), tali (*Erythrophloeum suaveolens*), moabi (*Baillonella toxisperma*), and movingui (*Distemonanthus benthamianus*)

Jean-Bosco Tchinda Saha¹, Daouda Abial¹, Stéphanie Dumarcqy¹, Maurice Kor Ndikontar¹, Philippe Gérardin¹, Joseph Ngamveng Noan¹, Dominique Parent¹

Understanding and measuring wood properties to valorize or modify them through industrial processes

Polymer Degradation and Stability
Volume 95, Issue 9, September 2013, Pages 1762-1766

Comparison of mechanical properties of heat treated beech wood cured under nitrogen or vacuum

Kévin Candeller, Stéphanie Dumarcqy, Aniké Pétrissans, Philippe Gérardin, Mathieu Pétrissans

Wood as a maker of tree ecophysiology

Tree Physiology Advance Access published October 20, 2011

Tree Physiology 31, 1-13
doi:10.1093/treephys/tpq107

Research paper
Do changes in carbon allocation account for the growth response to potassium and sodium applications in tropical *Eucalyptus* plantations?

Find in wood some markers of root or foliage functioning (e.g. $\delta^{13}C \rightarrow WUE$)

Daniel Epron^{1,2,3,4,10}, Jean-Paul Laclau³, Julio C.R. Almeida⁴, José Leonardo M. Gonçalves⁴, Stéphane Ponton^{1,2}, Carlos R. Sette Jr⁴, Juan S. Delgado-Rojas⁴, Jean-Pierre Bouillet^{1,2} and Yann Nouvellon³

Mixing several approaches to study how wood responds to environmental disturbances

WADE aims at studying wood response to changing environmental conditions following canopy disturbance (gap opening after storm, thinning), through unconventional views at the confluent of the above mentioned approaches.

