

IRG Documents 2024

Section 1 Biology

IRG/WP 24-11032

Time-lapse evaluation of *Aureobasidium pullulans* growth on selected lignin derivatives and chitosan
Gubenšek, F Poohphajai, A Tošić, K Butina Ogorelek, W Pajerski, A Černoša, V Hribljan, A Sandak

IRG/WP 24-11033

Research on gaseous COS degradation by brown-rot fungus *Gloeophyllum trabeum*
R Iizuka, R Tsukida, Y Katayama, M Yoshida

IRG/WP 24-11034

Characterization of cell wall morphology and water-soluble extractives in Japanese larch decayed by white-pocket-rot fungi
Y Mori, H Arai, T Ito, H Hashitani, K Yamashita, Y Ota, M Kiguchi

IRG/WP 24-11035

Cellulose nanomaterials in growth media for wood decay fungi
K M Ohno, R A Arango, R Sabo, C M Clemons, G T Kirker, A B Bishell

IRG/WP 24-11036

Do naturally sequestered biocidal metals contribute to the marine borer resistance of turpentine?
P D Evans, H Matsunaga, D Feng, M Turner, C Kewish

IRG/WP 24-11037

Protocol of action in urban areas affected by subterranean termite attacks in Spain. Example of management in the old town of Areatza
D Lorenzo, J Benito, J Arancon, D Luengas

IRG/WP 24-11038

Laboratory evaluation of PA1b, an insecticidal protein extracted from pea seeds (*Pisum sativum*), as bait active ingredient against the subterranean termite *Coptotermes gestroi* (Blattodea: Rhinotermitidae) in tropical zones
J Vuillemin, D Messaoudi, P da Silva

IRG/WP 24-11039

Prevention of termite tubing on foam insulation materials
Q Wu, J Curole, J D Lloyd

IRG/WP 24-11040

Intra-species variability of moisture dynamics in wood
C Brischke, H Purps, L Emmerich

IRG/WP 24-11041

Wood above ground project – Results and future plans
A W Christof, R Digaitis, P Fynholm, J Stenbæk, N Morsing, B Lindegaard

IRG/WP 24-11042

The durability and mechanical properties of 40 years old Black locust poles
M Humar, J Malik, J Levanič, D Kržišnik, E Keržič, B Lesar

IRG/WP 24-11043

Unlocking the Potential of Paulownia in Malaysia: Durability Assessment to Mold
S Lipeh, T Khadiran, N A Siam, R Jalil, N F N M Isa

IRG/WP 24-11044

On the use of miniaturized wood specimens in fungal decay experiments – mini-blocks versus EN 113 test specimens

C Brischke, G Alfredsen

IRG/WP 24-11045

Investigating moisture dynamics and fungal decay risk: integrating X-ray CT visualization and simulation benchmarks through a Fungal Control Unit

J Van den Bulcke, J Van Acker, M Delbeke, A Blommaert, N Van Den Bossche, M Steeman, L De Ligne

IRG/WP 24-11046

A novel cellulose-binding domain from the brown-rot fungus that can be used to evaluate cellulose in wood

Y Kojima, N Sunagawa, S Tagawa, T Hatano, S Nakaba, M Aoki, M Wada, K Igarashi, M Yoshida

IRG/WP 24-11047

X-ray fluorescence microscopy of copper ion distribution in decay of copper-treated wood by *Fibroporia radiculosa*

K M Ohno, J Jakes, A B Bishell, L Li, Q Jin, E Maxey

IRG/WP 24-11048

Adaptability of *Reticulitermes flavipes* (Kollar) in a northern climate

R A Arango, K M Ohno, A B Bishell, G T Kirker

IRG/WP 24-11049

Laboratory and field evaluations of bio-based termiticide containing Arnica extract from Berkem Biosolutions® against native and Formosan subterranean termites

D Messaoudi, J Curole, Q Wu

IRG/WP 24-11050

Efficacy performance of Pea Extract as bait toxicant for termite control in Reunion Island

J Vuillemin, D Messaoudi, A Robert, P da Silva

Section 2 Wood Protection

IRG/WP 24-20705

Exposure tests on railroad ties treated with DOT

L Arthur, J-W Kim

IRG/WP 24-20706

Enhancing UV resistance and decay resistance of wood by nanoparticle dispersed linseed oil nanoemulsion

R Bansal, R Kumar, K K Pandey

IRG/WP 24-20707

X-ray micro-computed tomography of copper distribution in CA, ACQ and MCA treated wood and changes in microstructure of ACQ-treated southern pine following natural weathering

D Feng, M Turner, P D Evans

IRG/WP 24-20708

Suberinic acid from birch bark and its suitability in wood protection

A Treu, M Altgen, J Rižikovs

IRG/WP 24-20709

Barriers of polyglycol/borate treated wood prevent termite attack to untreated wood above them in 10-year field tests

K W Ragon, J D Lloyd, T L Amburgey

IRG/WP 24-20710

Benefits of borate dual treatment

S T Smith, J D Lloyd, S McKinney

IRG/WP 24-20711

Why preserved wood is used for infrastructure

S T Smith

IRG/WP 24-20712

Comparison of residual Methylisothiocyanate (MITC) in Australian and South American hardwood and softwood treated with a solid compressed Dazomet fumigant stick

R Tungal, M Powell, J J Morrell, T Singh

IRG/WP 24-20713

Effects of phosphoric acid and diammonium phosphate treatments on the physical and fire-retardant properties of five selected Nigerian wood species

J Owoyemi, T O Akinwamide, O M Ibrahim, E A Iyiola

IRG/WP 24-20714

Binder-free, fire-resistant, light-weight fiberboard materials encrusted with expandable graphite and borax

W Perdoch, W Grześkowiak, B Mazela

IRG/WP 24-20715

Terpene-based latex synthesis for exterior wood protection

M Carrère, V Landry

IRG/WP 24-20716

Surface treatment of cross-laminated timber to improve water repellency and UV resistance

M Chen, S Uphill, J Hilsenbeck, A Hughes

IRG/WP 24-20717

Withdrawn document

IRG/WP 24-20718

Investigation on the use of whey ultrafiltration permeate as a biosourced agent of wood protection

A Keralta, J Winninger, J Chamberland, V Landry

IRG/WP 24-20719

Potential of heartwood extracts as wood preservatives combined with linseed oil in 8-year above-ground and in-ground field trials

M E Mankowski, G T Kirker, B Hassan

IRG/WP 24-20720

EMC as a quality control parameter for thermally modified wood

P Klaas, J T Lauridsen

IRG/WP 24-20721

Studies on the treatability of selected pine species and corresponding efficacies of a new non-biocidal treatment

T R da Silva Lins, L Emmerich, H Militz, P H Gonzales de Cademartoni, R J Klizke, M Pereira da Rocha

IRG/WP 24-20722

Phytosanitary heat treatment of wood in a laboratory drying oven and, in a pilot-scale kiln using the house longhorn beetle (*Hylotrupes bajulus*) larvae as a model

B Rubio, C L'Hostis, M Montibus, I Paulmier, C Brunet, L Charron, J-P Gaussorgues, C Guiberteau, V Vlahakis, F-R de Cibon, I Le Bayon

IRG/WP 24-20723

Effectivity of zinc borate in medium density fiberboard (MDF) for ground proximity testing

S M Vega Gutierrez, T Olivadoti

IRG/WP 24-20724

The potential of Wacapou (*Vouacapoua americana*) extracts to develop new biobased protective solutions for white woods

E Kieny, K Candelier, L Milhe, Y Estevez, C Sophie, R Lehnebach, J Damay, D Florez, E Hoël, M-F Thevenon, J Bossu

IRG/WP 24-20725
Elevated pressure hybrid wood modification: Synergistic effects on durability performance
P Klaas, D Jones

IRG/WP 24-20726
Comparison of copper leaching from alkaline copper quat and copper compound nanosol-based wood preservative treated wood
Y-S Choi, S-M Yoon, J O Kim, J-G Kang, J-G Park

IRG/WP 24-20727
Virtual reality of wood protection
D Feng, Y Liu, M Turner, A Limaye, P D Evans

IRG/WP 24-20728
A new wood preservative system based on basic copper compound nanosols
J O Kim, J-G Kang, Y-S Choi, S-M Yoon, H-M Lee, J-G Park

IRG/WP 24-20729
Preservative properties of boron-treated paulownia wood
T Khadiran, M A M Abdullah, S Lipeh

Section 3 Wood Modification

IRG/WP 24-30799
Exploring bio-based chemicals in the residual stream from the thermal wood modification process
R Herrera, W Willems, W Pajerski, A Selmanović, A Sandak

IRG/WP 24-30800
Properties of thermal modified wood of *Pinus pinaster*, *Pinus radiata* and *Pinus sylvestris* from Galicia, Spain
D Lorenzo, J Benito, J Arancon, J Crespo

IRG/WP 24-30801
Natural weathering of modified pine and Eucalyptus woods by surface charring
E E Soyuturk, E N Kavakli, S N Kartal, C M Ibanez

IRG/WP 24-30802
Durability of thermo-mechanically densified and heat-treated timbers against marine borers
M Westin, C Brischke

IRG/WP 24-30803
Physical, durability and chemical characterization of *Gmelina arborea* (Roxb.) wood treated with lactic acid
T O Akinwamide, J M Owoyemib, E A Iyiolac

IRG/WP 24-30804
Preliminary investigation of the durability and performance of 1,3-dimethylol-4,5-dihydroxyethylene urea (DMDHEU) treated aspen strandboard
S Johnson, F Kamke, G Presley

IRG/WP 24-30805
Influence of the substitution of phenol with lignin cleavage products in phenol-formaldehyde impregnation resins for wood modification on the fungal decay resistance and impregnation depth
J Karthäuser, L Tarentino, A Treu, H Militz, G Alfredsen

IRG/WP 24-30806
Citric acid and sorbitol treatment: A comparative study of Canadian and Norwegian species
D Schorr, Erik Larnøy, R Stirling, G Boivin

IRG/WP 24-30807
Durability of acetylated beech (*Fagus sylvatica* L.) laminated veneer lumber (LVL)
M Slabohm, H Militz

IRG/WP 24-30808
Manufacturing of bamboo hybrids with high strength, superior fire retardancy, and dimensional stability
W He, Rui Wang, W Li, G Hu, T Singh, Q Fu

IRG/WP 24-30809
Bio-durability and weathering performances of cardanol-treated wood
L Liang, McDonald, A G, L Cai

IRG/WP 24-30810
Developing thermal-energy storage systems based on Kraft lignin-glyoxal and organic phase-change material modified wood
C-F Lin, O Karlsson, D Jones, D Sandberg

IRG/WP 24-30811
A novel treatment for increasing UV stability of wood based on citric acid and urea
S Jué, A Scharf, C-F Lin, R Moutou Pitti, D Sandberg, D Jones

IRG/WP 24-30812
Assessment of hydrophobic properties of acetylated and furfurylated Korean wood species
S-M Yoon, Y-S Choi, H-M Lee, Y Park, W-J Hwang, S-K Jang

Section 4 Applications and Performance

IRG/WP 24-40996
International joint field trial on the moisture performance of wood – Set up and first results
C Brischke, et al. (33 co-authors)

IRG/WP 24-40997
Shelling of flat and profiled western larch deck-boards exposed to natural weathering
L H Leung, P D Evans

IRG/WP 24-40998
Evaluation of the water exclusion ability and inherent bioactivity of heartwood against decay in Japanese and European wood species via above-ground exposure and water absorption tests
T Osawa, R Noda, K Yamamoto

IRG/WP 24-40999
Outdoor termite resistance performance of zinc borate (Borogard® ZB) treated parallel strand lumber (PSL) – 15 years field test results
S Shi, E Laval, K Lung, F Ascherl, R Williams, W Li, X Li

IRG/WP 24-41000
Field performance of preserved shakes and shingles
R Stirling, S Kus

IRG/WP 24-41001
Evaluation of vacuum borate treated spruce or pine CLT in an above ground protected test in southern Mississippi
M E Mankowski, A Taylor, G T Kirker

IRG/WP 24-41002
How personality traits influence the perception of fungal decay in a wooden cladding – A survey in three
Modelling wood moisture content in outdoor conditions from measured data
G W Gustavsen, G Alfredsen, P B van Niekerk, J Niklewski, C Brischke

IRG/WP 24-41003

Modelling the service life of wood in ground contact – Verification of remotely sensed soil data from the reanalysis dataset ERA5-Land using in-situ measurements at a test site of utility poles in Eastern Norway
U Hundhausen, P B van Niekerk, B Marais

IRG/WP 24-41004

Assessment of historical pilings from Lisbon
D Jones, S Duarte, J A J Huber, L Nunes

IRG/WP 24-41005

Modelling wood moisture content in outdoor conditions from measured data
J Niklewski, P B van Niekerk, L Meyer-Veltrup, J Sandak, C Brischke

IRG/WP 24-41006

In service performance of wood sound abatement barriers
S Kus, D Wong, R Stirling

IRG/WP 24-41007

Service life of poplar, a low durability hardwood
J Van Acker, X Jiang, L De Ligne, J van den Bulcke

IRG/WP 24-41008

Changes in decay risk of wood in ground contact over Europe, from analysis of historic climate conditions
P B van Niekerk, B N Marais, G Alfretdsen, C Brischke

IRG/WP 24-41009

Evaluation of mass timber materials for military and commercial trailer decking
G Kirker, A Senalik, X Wang, K Ohno, R Arango, M Mankowski, X Xie, J Eskola, N Kamprath, S Karwaczynski, M Weaver

IRG/WP 24-41010

Performance of Douglas-fir cross laminated timber (CLT) subjected to elevated humidity in a ground proximity field test for 6 years
M E Mankowski, J J Morrell, T G Shelton, G T Kirker

IRG/WP 24-41011

Leaching and chemical redistribution of CCA components in refractory heartwood of *E. nitens*
J R Vargas, L Yermán, K C Wood, T Singh

IRG/WP 24-41012

Field facility for conducting wood durability tests at LSU Agricultural Center
Q Wu, J Curole

IRG/WP 24-41013

Field test method for wood in above ground situation - The full CEN/TC 38 guideline for the Sandwich method. Part 1 - Determining the relative protective effectiveness of a wood preservative.
M Westin, R Ringman, A Christof, M Klamer, F Friese

IRG/WP 24-41014

Durability of Malaysian plybamboo to mold
S Lipeh, A Mustapha, A S Yusoh, M K A Uyup

Section 5 Sustainability and environment

IRG/WP 24-50386

Analysis and performance of spruce alternative species and discarded wood for windows production
B Lesar, J Levanič, M Humar, A Treu

IRG/WP 24-50387

Keeping wood greenest: Maximizing the unique benefits of preserved wood through end-of-life planning to realize carbon sequestration and a circular economy

J D Lloyd, B Poe

IRG/WP 24-50388

Bio-based thermal insulation panels – a way of cascading utilization of post-consumer wood

W Perdoch, A Szelag

IRG/WP 24-50389

Levels of chromated copper arsenate in aged radiata pine vineyard posts

T Singh, T Yi, P Mitchell, J Norton

IRG/WP 24-50390

Copper migration from preservative-treated Douglas-fir decking: models vs laboratory leaching data

M J Konkler, G Presley, J J Morrell, T Singh

IRG/WP 24-50391

Quantifying metal migration from a deck constructed with copper-azole-treated lumber

G Presley, M Konkler

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Exploring the migration of creosote in freshwater environments: A study on treated wood immersion

I Rashidjoubari, M Konkler, K Quigley, G Presley

IRG/WP 24-50393

Quantitative assessment of wood preservative emissions to waterways

K J Rader, R Carbonaro, C Mackie

IRG/WP 24-50394

Phytosanitary treatment of roundwood for oversea shipping - on the suitability of dry heat treatment as alternative to climate-change effective fumigation

G Weber, L Schrader, J Trautner

IRG/WP 24-50395

Overview of Canadian CRD wood waste recycling ecosystem

G Boivin, D Schorr

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Biofabrication of composite materials – Utilizing lignocellulosic biomass and mycelium in 3D printing

D Krzysnik, B Žuran, M Kariž, M Humar

IRG/WP 24-50397

Evaluating the potential for re-using timber from deconstructed sea defence groynes from the Bournemouth groyne field

J R Williams

IRG/WP 24-50398

Timber circularity discussion: Waste hierarchy and prioritising reuse opportunities!

T Singh

IRG/WP 24-50399

State of U.S. forests: Status and projections from the 2017 forest resources report and the 2020 resources planning act assessment
S Oswalt

IRG/WP 24-50400

The past, present and future of hardwoods in North America
D Brooks

Section 6 Other documents

IRG/WP 24-60532

Annual Report 2023
IRG Secretariat

IRG/WP 24-60533

Agenda 2024 Plenary meeting
IRG Secretariat

IRG/WP 24-60534

Programme. The IRG55 Scientific Conference on Wood Protection
IRG Secretariat

IRG/WP 24-60535

Budget for 2024 (forecast May 2024)
IRG Secretariat

IRG/WP 24-60536

Budget for 2025
IRG Secretariat

IRG/WP 24-60537*

Agenda Finance Committee Meeting 2024
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IRG/WP 24-60538*

Agenda Communications Committee Meeting 2024
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IRG/WP 24-60539*

Agenda Executive Council Meeting 2024
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IRG/WP 24-60540*

Agenda Scientific Programme Committee Meeting 2024
IRG Secretariat

IRG/WP 24-60541*

Reporting minutes of the Communications Committee Meeting 2024
IRG Secretariat

IRG/WP 24-60542*

Reporting minutes of the Finance Committee Meeting 2024
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IRG/WP 24-60543*

Reporting minutes of the Scientific Programme Committee Meeting 2024
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IRG/WP 24-60244*
Reporting minutes of the Executive Council Meeting 2024
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IRG/WP 24-60545
Reporting minutes of the Plenary Meeting 2024
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Programme. The IRG Scientific Webinar in Nov 2023
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