THE INTERNATIONAL RESEARCH GROUP ON WOOD PRESERVATION

IRG DOCUMENTS 2003

List of technical and other main documents issued in 2003

Section 1 Biology

IRG/WP 03-10456

Growth of selected wood decay fungi on various agar-supplemented media S A Amartey, M Humar, F Pohleven

IRG/WP 03-10457

The natural durability of wood in different use classes

U Augusta, A Rapp

IRG/WP 03-10458

Review of Mold Issues in North America and Mold Research at Forintek

A Uzunovic, T Byrne, D-Q Yang, P Morris

IRG/WP 03-10459

Differentiation of Scots pine heartwood and sapwood by near infrared spectroscopy

P O Flæte, E Ystrøm Haartveit

IRG/WP 03-10460

Sawmill Evaluation of a Bioprotectant against Moulds, Stain and Decay on Green Lumber

D-Q Yang, M Gignac, M-C Bisson

IRG/WP 03-10461

A possible role of unique TCA cycles in wood-rotting basidiomycetes

E Munir, T Hattori, M Shimada

IRG/WP 03-10462

Accidental mold/termite testing of high density fiberboard (HDF) treated with borates and N'N-

naphthaloylhydroxylamine (NHA)

S N Kartal, H H Burdsall Jr F Green III

IRG/WP 03-10463

Results on field stake tests against termite – Maximum for 8 years examination at Kumamoto in Japan

K Suzuki

IRG/WP 03-10464

Practical applications of steamed larch wood to a termite bait system using chlorfluazuron

S Doi, S Shibutani, K Hanada, T Miyahara

IRG/WP 03-10465

Mold inhibition on unseasoned southern pine

C A Clausen, V W Yang

IRG/WP 03-10466

Growth of two selected sapstain fungi and one mould on chitosan amended nutrient medium

C Chittenden, R Wakeling, B Kreber

IRG/WP 03-10467

Factors affecting resistance to sapstain infection in freshly felled softwood logs

E J Young, R A Eaton, J F Webber, M A W Hill

IRG/WP 03-10468

A risk model for termite attack in Australia

R H Leicester, C-H Wang, L Cookson

Effects of biocides on the extracellular mucilaginous material (ECMM) produced by two wood rotting basidiomycetes

D Vesentini, D J Dickinson, R J Murphy

IRG/WP 03-10470

Model of termite distribution in Portugal - Follow-up

T Nobre, L Nunes

IRG/WP 03-10471

Effect of methylene bisthiocyanate on morphology and ultra-structure of a sapstain fungus, *Ophiostoma floccosum*

T Singh, B Kreber, R Wakeling, A Stewart

IRG/WP 03-10472

Subterranean termite attack potential in field test sites: assessment methods and field characterization T Nobre, L Nunes, L Brinca, D E Bignell

IRG/WP 03-10473

Effects of cyproconazole and copper sulphate on the length of the hyphal growth unit (HGU) of the white-rot fungus *Coriolus versicolor*

D Vesentini, D J Dickinson, R J Murphy

IRG/WP 03-10474

Biocontrol and bioprotection of wood decay and sapstain fungi

M T Troya, F Rubio, M Villarreal, F Arenal, F Llinares, V Rubio, D Muñoz-Mingarro, N Acero

IRG/WP 03-10475

Analysis of D-glucose metabolism of wood decay fungi using 13 C-NMR and 13 C-labeled substrates T H de Koker, M D Mozuch, P J Kersten

IRG/WP 03-10476

Effects of Prior Establishment of *Trichoderma harzianum* on *Ophiostoma picea* Growth in Freshly Sawn Douglas-fir Sapwood

Y Xiao, J J Morrell, L M Ciuffetti

IRG/WP 03-10477

Transformation of *Ophiostoma picea* and *Trichoderma harzianum* with green fluorescent protein (GFP) Y Xiao, L M Ciuffetti, J J Morrell

IRG/WP 03-10478

Report and recommendations of the National Termite Workshop held in Melbourne on the 17 April 2002. B Ahmed, J R J French

IRG/WP 03-10479

Morphological and Molecular Diagnosis of *Leptographium* spp. in Canadian Softwoods S Alamouti, J-J Kim, A Uzunovic, C Breuil

IRG/WP 03-10480

Comparative study of termite diversity in moist evergreen forest and dry evergreen forest, Chanthaburi province, Thailand

S Chutibhapakorn

IRG/WP 03-10481

Foraging patterns of termite species in the living complexes of Bangkanoon forest plantation, Phuket province, Southern Thailand

Y Sornnuwat, C Vongkaluang, S Chutibhapakorn

IRG/WP 03-10482

Biofouling and bioresistance of bamboo in marine environment

M V Rao, M Balaji, V Kuppusamy, K S Rao

IRG/WP 03-10483

Introduction of plank-built catamarans along the north coast of Andhra Pradesh, India – A development of recent origin

M V Rao, K S Rao, M Balaji, V Kuppusamy

The selected properties of Scots pine wood blue-stained by fungus *Cladosporium herbarum* A Fojutowski

IRG/WP 03-10485

Effect of bioextracts on colonisation of radiata pine sapwood by three sapstain fungi J van der Waals, C Chittenden, B Kreber

IRG/WP 03-10486

Wood and filter paper degradation, phenol oxidase and one-electron oxidation activities by the white rot fungus *Ceriporiopsis subvermispora*

IRG/WP 03-10487

Feeding response of field populations of *Coptotermes* species to softwood blocks treated with non-toxic water-proofing and anti-microbial products.

JR J French, T Pynsent, M Susic

H Tanaka, S Itakura, A Enoki

IRG/WP 03-10488

Moulds and indoor climate in Denmark J Bech-Andersen, S A Elborne

IRG/WP 03-10489

Response of laboratory groups of *Reticulitermes speratus* (Kolbe) to different quantities of food M Lenz, T Yoshimura, K Tsunoda

IRG/WP 03-10490

Natural durability, density and extractive contents of 42 wood species of Bangladesh. S Akhter, K Akhter, S C Das

IRG/WP 03-10491

Fungal colonization of CCA-treated decking S M Choi, J N R Ruddick, P I Morris

IRG/WP 03-10492

Susceptibility of CCB treated wood to fungal colonization

F Pohleven, U Andoljsek, P Karabegovic, C Tavzes, S A Amartey, M Humar

IRG/WP 03-10493

Relationship of wood durability and extractives

S M Kazemi

IRG/WP 03-10494

Isolation of a putative endogenous endo-ß-1,4-glucanase (cellulase) from the midgut diverticulae of the wood-boring crustacean, *Limnoria quadripunctata*

J Dymond, M J Guille, S M Cragg

IRG/WP 03-10495

Estimation of oral toxicity of boron as a bait toxicant and the trophallactic effects between individual members of termite colonies.

B M Ahmed

IRG/WP 03-10496

Identification of phanerosporic acid in birch degraded by *Phanerochaete chrysosporium* M D Mozuch, P J Kersten

IRG/WP 03-10497

Experimental test site to prevent maritime pine logs from bluestaining: water-spraying and water-immersion methods

I Le Bayon, H Callot, D Reuling, C Brunet, P Castéra

IRG/WP 03-10498

Assessment of the natural durability of four Ghanaian hardwoods against the white-rot fungus *Coriolus versicolor* and soft-rot using laboratory tests

C Antwi-Boasiako, A J Pitman, J R Barnett

Natural durability of European wood species for exterior use above ground B Lindegaard, N Morsing

IRG/WP 03-10500

Comparing the resistance of a number of lesser known species of tropical hardwoods to the marine borer *Limnoria* using a short term laboratory assay

L M S Borges, S M Cragg, J R Williams

IRG/WP 03-10501

Soft Rot Decay of Cengal (Neobalanocarpus heimii) Heartwood in Ground Contact in Relation to Extractive Microdistribution

A P Singh, A H H Wong, Y S Kim, S G Wi, K H Lee

IRG/WP 03-10502

Report of Section 1 2003

F Green III

Section 2 Test methodology and assessment

IRG/WP 03-20259

Gas chromatographic determination of 1,8-naphthalimide, N-Hydroxy-1,8-naphthalimide (N,N-naphthaloylhydroxylamine) and the sodium salt of N-Hydroxy-1,8-naphthalimide E Melcher, F Green III

IRG/WP 03-20260

An engineering model for the decay of timber in ground contact

R H Leicester, C-H Wang, M N Nguyen, J D Thornton, G Johnson, D Gardner, G C Foliente, C MacKenzie

IRG/WP 03-20261

International comparison of three field methods for assessing the in-ground resistance of preservative-treated and untreated wood to termites and fungal decay – Summary of observations after five years M Lenz, J W Creffield, T A Evans, B M Kard, C Vongkaluang, Y Sornnuwat, A F Preston

IRG/WP 03-20262

Accelerated weathering test for the evaluation of wood preservative efficacy A Temiz, M Eikenes, Ü Yildiz, F G Evans, B Jacobsen

IRG/WP 03-20263

Design of Field Trials for Evaluation of Antisapstain Products

F W Frazer, N R Edmonds, B J Nairn

IRG/WP 03-20264

Influence of different fixation and ageing procedures on the leaching behaviour of copper from selected wood preservatives in laboratory trials

J Habicht, D Häntzschel, J Wittenzellner

IRG/WP 03-20265

Assessment of the Termatrac™ system - a new microwave based technology for non-destructive detection of termites

T A Evans

IRG/WP 03-20266

Determination of chlorine-containing wood preservatives in art objects using Micro-XRF J Bartoll, A Unger, S Krug, K Püschner, H Bronk

IRG/WP 03-20267

Evaluating the Exterra Termite Interception and Baiting System in Australia B C Peters, S Broadbent

IRG/WP 03-20268

Reliability-based service life prediction methodology for assessment of water protection efficiency for coatings on wood

J Ekstedt

Some fundamental thoughts on the prediction of field performance from lab-testing based on comparison of lab and field test results of some copper-free materials

A O Rapp, U Augusta

IRG/WP 03-20270

Suitability of cotton strip testing as a screening method for the development of wood preservative formulations H Leithoff, I Stephan, H Härtner

IRG/WP 03-20271

Detection of Termite Attack to Wood Stakes in a Monitoring Station Using Ceramic Gas Sensors and Acoustic Emission (AE) Sensor

Y Yanase, Y Fujii, S Okumura, T Yoshimura, Y Imamura, T Maekawa, K Suzuki

IRG/WP 03-20272

Inspection method of surface checking of Sugi posts

H Kurisaki, H Nakatani, K Mizumoto

IRG/WP 03-20273

Blue Stain Testing of Alkyd and Acrylic Stains M Petrič, M Pavlič, B Kričej, M Humar, F Pohleven

IRG/WP 03-20274

Facility for Conducting Field Tests on *Coptotermes formosanus* at LSU Agricultural Center W R Smith, T L Amburgey, G Henderson, D R Ring

IRG/WP 03-20275

A case for adopting a standardised protocol of field and laboratory bioassays to evaluate a potential soil termiticide

J R J French, B Ahmed

IRG/WP 03-20276

Leaching of active components from preservative-treated timber - Ongoing research: Status after approx. 4 months' out-door exposure

N Morsing

IRG/WP 03-20277

International standards - which future?

G Ozanne

IRG/WP 03-20278

A comparison of fatty acid and molecular profiles for identification of wood colonizing basidiomycota T C McElroy, L Prewitt, S V Diehl

IRG/WP 03-20279

Report of CEN/TC 38

R Hüe

IRG/WP 03-20280

A Long-term Observation of Termite Activity in The Nest by Continuous Acoustic Emission (AE) Monitoring Y Yanase, Y Fujii, S Okumura, T Yoshimura, Y Imamura

IRG/WP 03-20281

Chemical, physical and biological factors affecting wood decomposition in forest soils M Jurgensen, P Laks, D Reed, A Collins, D Page-Dumroese, D Crawford

IRG/WP 03-20282

Regulatory and Consumer Challenges Facing Timber Preservation and Durability Interests in New Zealand and Australia

C MacKenzie

IRG/WP 03-20283

Report of Section 2 2003

P Morris

Section 3 Wood protecting chemicals

IRG/WP 03-30303

Field Test Results after Nine Years for CCA and ACQ Preservative-treated Wood Fixed in Different Climates F G Evans

IRG/WP 03-30304

Investigation of temperature effect on fixation of Celcure preservative (ACC) in Hornbeam (*Carpinus betulus* I) R Imani, R E Majdar, A Karimi

IRG/WP 03-30305

Efficacy of copper:propiconazole and copper:citrate systems in ground contact exposure at a site with copper tolerant fungi

D D Nicholas, T P Schultz

IRG/WP 03-30306

Tanalith T - a new preservative system for protecting house frames in Australia from termite attack. P R Cobham, J Snow

IRG/WP 03-30307

Leaching characteristics, decay and termite resistance of treated wood with boron compounds, N'-N-(1,8-Naphthalyl) hydroxylamine (NHA-Na), and hydroxynaphthalimide (NHA-H) S N Kartal, Y Imamura

IRG/WP 03-30308

Field testing of nootkatone and tetrahydronootkatone wood treatments against *Coptotermes formosanus* Shiraki K E Nix, G Henderson, R Laine

IRG/WP 03-30309

Performance of Borate-Treated Wood Against *Reticulitermes flavipes* in Above-Ground Protected Conditions P I Morris, J K Grace, K Tsunoda, A Byrne

IRG/WP 03-30310

Performance of Copper-Chrome-Arsenic (CCA) and Copper-Chrome-Boric (CCB) treated panels of *Bombax ceiba* and *Paraserianthus falcataria* against bio-deterioration at Krishnapatnam harbour, east coast of India B Tarakanadha, N R Raveendra Prasad, K S Rao

IRG/WP 03-30311

Stability of bifenthrin in a commercial phenol-formaldehyde plywood glue M J Kennedy, P A Collins, R D Vella

IRG/WP 03-30312

Animal blood protein as a component of new, non-toxic wood preservatives fixing organic active compounds in wood

B Mazela, I Polus

IRG/WP 03-30313

Envelope treatment to protect softwood timbers from damage by subterranean termites B C Peters, J W Creffield

IRG/WP 03-30314

Ten Year Marine Borer Exposure Trial of Chlorothalonil and Emulsified Preservatives in Australia L J Cookson, D K Scown

IRG/WP 03-30315

Review of current wood preservation in Turkey

I Usta

IRG/WP 03-30316

Leaching Characteristics of Copper in Copper Treated Wood M Jiang, J Liu, D Qin, Y Wang, Z Jiang

IRG/WP 03-30317

Laboratory and Pilot Evaluation of Chlorothalonil Formulations for Mold and Stain Control on some Wood Species M Jiang, Z Li

Moisture uptake and volumetric swelling as probable factors also affecting leaching in CCA-treated wood.

A preliminary study of treated Eucalyptus saligna sapwood

R Venkatasamy

IRG/WP 03-30319

An anti-termite formulation for soil treatment with natural products and its efficacy against *Coptotermes formosanus* Shiraki

S Yoshida, T Nakagaki, A Igarashi, A Enoki

IRG/WP 03-30320

Inhibition of the biodegradation of coniferous and broadleaved wood by new imidazolium salts J Zabielska-Matejuk, J Pernak, W Wieczorek

IRG/WP 03-30321

Biological test, AAS and EPR study of copper monoethanolamine complex with quaternary ammonium compounds as a wood preservative

B Mazela, I Polus, S K Hoffmann, J Goslar

IRG/WP 03-30322

Field Testing of Copper Carboxylate Preservatives

H M Barnes, M G Sanders, T L Amburgey

IRG/WP 03-30323

Evaluation of Rosewood extractives as potential source for termite control M-F Thévenon, P Simonin, A Carrère, D Fouquet

IRG/WP 03-30324

Effect of Oil Content on The Performance of Wood Treated with Pentachlorophenol H M Barnes, T L Amburgey, M G Sanders

IRG/WP 03-30325

Permatek IM 30 as a termiticide treatment for veneer-based wood products J Doyle, K Webb, W R Rae, A F Siraa, J Malcolm-Black

IRG/WP 03-30326

Issues Facing Wood Preservation in New Zealand Today M Hedley

IRG/WP 03-30327

Issues Facing Wood Preservation in Australia Today J Norton

IRG/WP 03-30328

Report of Section 3 2003

G R Williams

Section 4 Processes and Properties

IRG/WP 03-40251

Preservative treatment of wood-based composites with a mixture formulation of IPBC-silafluofen using supercritical carbon dioxide as a carrier gas

K Tsunoda, M Muin

IRG/WP 03-40252

Amenability of radial permeability of Sitka spruce (*Picea sitchensis* (Bong.) Carr.) as affected by aspects of cell ends in uniseriate ray parenchyma tissue

I Usta, M D Hale

IRG/WP 03-40253

Incising to improve penetration and retention of creosote in small-diameter Kenyan-grown Cypress (*Cupressus lusitanica*)

R Venkatasamy

IRG/WP 03-40254

The effects of heat treament on the specific gravity of beech and spruce wood S Yildiz, Ü Yildiz, G Colakoglu, E D Gezer, A Temiz

Influence of different treatment parameters on penetration, retention and bleeding of creosote Ö Bergman

IRG/WP 03-40256

Step-wise pressure process for reducing surface roughness in Japanese cedar timber K Yamamoto, M Nozoki

IRG/WP 03-40257

Modification of wood by graft treatment

M M Morshed, D D Nicholas, C U Pittman Jr, T P Schultz

IRG/WP 03-40258

Controlled envelope treatments of *Pinus* sapwood, achieved by modifications to impregnation process and carrier solvents

M J Kennedy, P R S Cobham

IRG/WP 03-40259

Supercritical fluid impregnation of Douglas-fir heartwood with cyproconazole using temperature induced deposition

S-M Kang, J J Morrell

IRG/WP 03-40260

Decay and mold resistance of borate modified oriented strandboard Q Wu, S Lee, J P Jones

IRG/WP 03-40261

Autoxidation of beech condensate

M Irmouli, J P Haluk

IRG/WP 03-40262

Preservative treatment of two bamboo species Borak (Bambusa balcooa Roxb) and Talla (Bambusa tulda Roxb) by Boucherie method

M N Islam, A S M A Huda, A K Saha, S M Mithue

IRG/WP 03-40263

Finite element analysis of boron diffusion in wooden poles

K Krabbenhøft, P Hoffmeyer, C G Bechgaard, L Damkilde

IRG/WP 03-40264

Formosan Subterranean Termite Resistance to Heat Treatment of Scots Pine and Norway Spruce W R Smith, A O Rapp, C Welzbacher, J E Winandy

IRG/WP 03-40265

The effect of oil-borne preservative treatments on the shear strength of FRP/wood composite adhesive bonds B Herzog, B Goodell, R Lopez-Anido

IRG/WP 03-40266

Investigation of some technical properties of heat-treated wood

C Bengtsson, J Jermer, A Clang and B Ek-Olausson

IRG/WP 03-40267

Effect of fungal degradation on the chemical composition of acetylated beech wood

H Militz, D W Son, L Gómez-Hernández, R Sierra-Alvarez

IRG/WP 03-40268

Modified Wood – Methods, testing and applications: Outcomes of the EU-Thematic Network D Jones, W Homan, J Van Acker

IRG/WP 03-40269

Report of Section 4 2003

J Van Acker

Section 5 Environmental aspects

IRG/WP 03-50196

Biological Safety Evaluation of Animal Contact of Preservative-Treated Wood D-H Lee, D-W Son, M J Lee, C H Kang, C H Kim, E-B Jeung

IRG/WP 03-50197

Minimisation of the Environmental Impacts of Coatings on Exterior Wood by Optimisation of their Life Spans L Strömberg

IRG/WP 03-50198

The Disposal of CCA-Treated Wood in Simulated Landfills: Potential Impacts J Jambeck, T Townsend, H Solo-Gabriele

IRG/WP 03-50199

Leaching of inorganic wood preservatives – Investigating the relationship between leachability, dissociation characteristics and long-term leaching potential L Waldron, Y T Ung, P A Cooper

IRG/WP 03-50200

Effects of soil physical and chemical characteristics on adsorption of leached CCA and ACQ preservative components

S Stefanovic, P A Cooper

IRG/WP 03-50201

Creosote movement from treated wood immersed in fresh water: Initial PAH migration S-M Kang, J J Morrell, J Simonsen, S T Lebow

IRG/WP 03-50202

Removing Cu, Cr and As from CCA treated yellow pine by oleic acid E D Gezer, Ü Yildiz, S Yildiz, E Dizman, A Temiz

IRG/WP 03-50203

The influence of soil pH on leaching of CCA elements from pressure-treated *Eucalyptus saligna* sapwood: environmental implication R Venkatasamy, D N Okwara

IRG/WP 03-50204

Do CCA treated support stakes cause increased arsenic level in crops? L Zhaobang, S Haitao, L Linqing

IRG/WP 03-50205

Environmental Impacts of CCA-Treated Wood: A Summary from Seven Years of Study Focusing on the U.S. Florida Environment

H M Solo-Gabriele, T G Townsend, J Schert

IRG/WP 03-50206

EPA's Current Views on Heavy-Duty Wood Preservative Regulation F T Sanders

IRG/WP 03-50207 Report of Section 5 2003 D P Kamdem

Section 6 Other documents

IRG/WP 03-60163* Agenda Finance Committee Meeting 2003 IRG Secretariat

IRG/WP 03-60164* Agenda Executive Council Meeting 2003 IRG Secretariat IRG/WP 03-60165*

Agenda Scientific Programme Committee Meeting 2003

IRG Secretariat

IRG/WP 03-60166*

Reporting minutes of the Finance Committee Meeting 2003

IRG Secretariat

IRG/WP 03-60167*

Reporting minutes of the Executive Council Meeting 2003

IRG Secretariat

IRG/WP 03-60168*

Reporting minutes of the Scientific Programme Committee Meeting 2003

IRG Secretariat

IRG/WP 03-60169

Annual report 2002

IRG Secretariat

IRG/WP 03-60170

Agenda Plenary Meeting 2003

IRG Secretariat

IRG/WP 03-60171

The 34th Annual Meeting of IRG. Technical Programme and Abstracts of Papers

IRG Secretariat

IRG/WP 03-60172

Budget for 2003, forecast May 2003

IRG Secretariat

IRG/WP 03-60173

Budget for 2004

IRG Secretariat

IRG/WP 03-60174

Reporting minutes of the Plenary Meeting 2003

IRG Secretariat

IRG/WP 03-60175

Application package – IRG Travel Award for short-term scientific missions

IRG Secretariat

IRG/WP 03-60176

Conditions for membership of IRG

IRG Secretariat

IRG/WP 03-60177

Conditions of the Ron Cockcroft Award scheme (RCA)

IRG Secretariat

IRG/WP 03-60178

Guidance for corresponding Members in preparing Annual Reports

IRG Secretariat

IRG/WP 03-60179

Guidelines for Giving an Oral Presentation at an IRG Conference

IRG Secretariat

IRG/WP 03-60180

Nomination procedure for the offices of President, Vice-President and members of the Executive Council of IRG

IRG Secretariat

IRG/WP 03-60181

Guidelines for Section and Working Party Chairpersons

IRG Secretariat

IRG/WP 03-60182 International Directory of Members and Sponsors 2003-2004 IRG Secretariat

IRG/WP 03-60183 IRG documents 2003 IRG Secretariat

*Restricted circulation