

# European Journal of Forest Research

Volume 131 • Number 4 • July 2012

## ORIGINAL PAPERS

Population variability based on the morphometry and chemical composition of the acorn in Holm oak (*Quercus ilex* subsp. *ballota* [Desf.] Samp.)

J. Valero Galván · J.J. Jorrín Novo · A.G. Cabrera · D. Ariza · J. García-Olmo · R.M.N. Cerrillo 893

Geographically structured and temporally unstable growth responses of *Juniperus thurifera* to recent climate variability in the Iberian Peninsula

L. DeSoto · J.J. Camarero · J.M. Olano · V. Rozas 905

*Pinus halepensis* Mill. crown development and fruiting declined with repeated drought in Mediterranean France

F. Girard · M. Vennetier · F. Guibal · C. Corona · S. Ouarmim · A. Herrero 919

Age effects and climate response in trees: a multi-proxy tree-ring test in old-growth life stages

I. Dorado Liñán · E. Gutiérrez · I. Heinrich · L. Andreu-Hayles · E. Muntán · F. Campelo · G. Helle 933

Estimation of nutrient removals in stem-only and whole-tree harvesting of Scots pine, Norway spruce, and birch stands with generalized nutrient equations

M. Palviainen · L. Finér 945

Short- and long-term impacts of an introduced large herbivore (*Buffalo*, *Bubalus bubalis* L.) on a neotropical seasonal forest

G.H. Michels · E.M. Vieira · F.N. de Sá 965

The decreased competition in expanding versus mature juniper woodlands is counteracted by adverse climatic effects on growth

T.E. Gimeno · B. Piás · J. Martínez-Fernández · D.L. Quiroga · A. Escudero · F. Valladares 977

Evidences of drought stress as a predisposing factor to Scots pine decline in Valle d'Aosta (Italy)

G. Vacchiano · M. Garbarino · E. Borgogno Mondino · R. Motta 989

Growth patterns and sensitivity to climate predict silver fir decline in the Spanish Pyrenees

J.C. Linares · J.J. Camarero 1001

Model-based analysis of the spatial variability and long-term trends of soil drought at Scots pine stands in northeastern Germany

A. Bauwe · C. Criegee · S. Glatzel · B. Lennartz 1013

Impact of the pinewood nematode, *Bursaphelenchus xylophilus*, on gross calorific value and chemical composition of *Pinus pinaster* woody biomass

V. Reva · L. Fonseca · J.L. Lousada · I. Abrantes · D.X. Viegas 1025

Biomass, basic density and biomass expansion factor functions for European beech (*Fagus sylvatica* L.) in Denmark

J.P. Skovsgaard · T. Nord-Larsen 1035

Mating patterns and pollen dispersal in four contrasting wild cherry populations (*Prunus avium* L.)

C. Jolivet · A.M. Höltken · H. Liesebach · W. Steiner · B. Degen 1055

Satellite-based stand-wise forest cover type mapping using a spatially adaptive classification approach

J. Stoffels · S. Mader · J. Hill · W. Werner · G. Ontrup 1071

Two provenances of *Quercus ilex* ssp. *ballota* (Desf.) Samp. nursery seedlings have different response to frost tolerance and autumn fertilization

E. Andivia · M. Fernández · J. Vázquez-Piqué · R. Alejano 1091

Assessing mass trapping efficiency and population density of *Cerambyx welensii* Küster by mark-recapture in dehesa open woodlands

L.M. Torres-Vila · Á. Sanchez-González · F. Ponce-Escudero · D. Martín-Vertedor · J.J. Ferrero-García 1103

Effects of growth rates, tree morphology and site conditions on longevity of Norway spruce in the northern Swiss Alps

E. Rötheli · C. Heiri · C. Bigler 1117

Genetic variation and divergence in Scots pine (*Pinus sylvestris* L.) within its natural range in Italy

P. Belletti · D. Ferrazzini · A. Piotti · I. Monteleone · F. Ducci 1127

Greenhouse gas emissions of two mechanised wood harvesting methods in comparison with the use of draft horses for logging

A.-M. Engel · J. Wegener · M. Lange 1139

Genetic variation of *Fraxinus angustifolia* natural populations in Greece based on nuclear and chloroplast microsatellite markers

R.M. Papi · K.A. Spanos · D.A. Kyriakidis 1151

Response of spruce stands in national parks of southern Poland to air pollution in 1998–2005

T. Staszewski · P. Kubiesa · W. Łukasik 1163

Adaptation of a modelling strategy to predict the NPP  
of even-aged forest stands

M. Chiesi · P. Cherubini · F. Maselli 1175

Relating visual crown conditions to nutritional status  
and site quality in monoclonal poplar plantations

(*Populus × euramericana*)

J. Martín-García · A. Merino · J.J. Diez 1185

Implications of growth uncertainties associated with climate  
change for stand management

L.O. Eriksson · S. Backéus · F. Garcia 1199

Wound occlusion and decay in *Picea abies* stems

R. Vasaitis · V. Lygis · I. Vasiliauskaitė · A. Vasiliauskas 1211

Mapping of snow-damaged trees based on bitemporal airborne  
LiDAR data

M. Vastaranta · I. Korpela · A. Uotila · A. Hovi · M. Holopainen 1217

Growth and phenology variation in progeny of Scots pine seed  
orchards and commercial seed stands

D.J. Chmura · R. Rożkowski · W. Chałupka 1229

Carbon loads, forms and sequestration potential within ash  
deposits produced by wildfire: new insights from the 2009  
'Black Saturday' fires, Australia

C. Santín · S.H. Doerr · R.A. Shakesby · R. Bryant · G.J. Sheridan ·  
P.N.J. Lane · H.G. Smith · T.L. Bell 1245

Small area estimation of forest attributes in the Norwegian  
National Forest Inventory

J. Breidenbach · R. Astrup 1255

Further articles can be found at [www.springerlink.com](http://www.springerlink.com)

**Indexed in/abstracted by** Science Citation Index Expanded (SciSearch),  
SCOPUS, Chemical Abstracts Service (CAS), Google Scholar, CSA, ProQuest,  
CAB International, Academic OneFile, AGRICOLA, CAB Abstracts,  
Current Contents/Agriculture, Biology & Environmental Sciences, EMBiology,  
Gale, Geobase, GeoRef, Journal Citation Reports/Science Edition, OCLC,  
Summon by Serial Solutions

Instructions for authors are available at [www.springer.com/10342](http://www.springer.com/10342)

04 JUIN 2012

