



mountains2018

nova friburgo · brasil

December, 10-14th 2018

III Workshop on Sustainable
Development in Mountain Environments
and
II International Conference on Research
for Sustainable Development in Mountain Regions

Book of Abstracts



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Book of Abstracts

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*Nova Friburgo, Rio de Janeiro
Brasil
2018*

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Instituto Politécnico de Bragança
Portugal
2018





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Instituto Politécnico de Bragança

Campus de Santa Apolónia 5300-253 Bragança, Portugal <http://www.ipb.pt>

E-book organization and structure: *Claudia Regina Delaia*

Cover Page: *Marcos Moulin – Embrapa*

Desktop publishing: *Embrapa -Alexandre Abrantes Cotta de Mello, Maria Christine Saraiva Barbosa, Liliane Goncalves Bello, Jesus Fernando Mansilla Baca; Federal University of Rio de Janeiro - Jeziel Gusmão de Abreu and Juliano Leal Camargo*

ISBN: 978-972-745-252-1

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Cimo, Mountain Research Center, Portugal

IPB, Polytechnic Institute of Bragança, Portugal

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colonization of southeastern Brazilian inselbergs, was investigated. Inhibition assay with 20% (w/v) of branches and leaves aqueous extract of both invaders plants inhibited *B. purpurea* seeds germination and radicle growth. The inhibition effect of *P. aurea* extract shown the greatest effect, leading to a delay of germination at 20% to 60% concentration, inhibiting germination totally, in 80% and 100%. Leucena cold extract at 20% and 80% concentration delayed *B. purpurea* germination and inhibited totally seed germination at 100%. The effect of heat extract (80°C) of leucena was more drastic, reducing seed germination at 60% to 100% concentration. *P. aurea* showed allelopathic effect on leucena plants, inducing to necrosis, radicle inhibition and anomalous seedlings plants at 80% concentration, as well as, the total seedlings lost at 100% extract. Seeds of *P. purpurea*, which did not germinate until the seventh day of incubation in leucena extract transferred to water. The results suggested that part of invasion success of both exotic species may be explained by the inhibitory effect of their allelochemical. The high allelopathic effect of the *P. aurea* on *B. purpurea* and *L. leucocephala* seedlings in association to its vegetative propagation by rhizome suggested that the utilization of these plants in slope contention program of inselbergs must be avoid.

Keywords:

bambu, leucena, seed germination.



Tools for sustainable and multifunctional mountain forest management

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Abstract:

Forest management is slowly incorporating concepts such as ecosystem services and multifunctionality as a reaction to increasing recognition of forests as providers of multiple irreplaceable ecosystem services and, simultaneously, to growing awareness of degradation of many forests in the world forests due to overexploitation and vulnerability related to changes in climate and society. Tools to support sustainable and multifunctional forest management in mountains are also under development but their application by large communities of stakeholders is still in progress. In an attempt to overcome chronic constraints related to lack of information, knowledge, and technology in the forest sector in the “Nordeste Transmontano” region in Portugal, we developed a group of computer tools to support forest management. The tools include a stand growth and yield simulator, a landscape management optimizer, a fuel and carbon emissions calculator, and tools to develop customized programs and mobile applications. The tools allow users to model and simulate forest growth, yield and management, to produce optimized management plans, and to assess forest scenarios, strategies and policies to support decision-making at several scales. In addition to wood production, indicators of other ecosystem functions and services, such as carbon sequestration and emission, and fire hazard are also taken into account. These tools are innovative also in being designed to support technology and knowledge transfer process to forest stakeholders, being therefore accessible, friendly to operate, and open to the forest community in the region and abroad

Keywords:

sustainable forest management, ecosystem services, Portugal.



Post-fire natural regeneration of high altitude grasslands, southeast of Brazil: perspective for