



4th World Congress on Agroforestry

20-22 May 2019
Montpellier, France

Book of Abstracts



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4th World Congress on Agroforestry

20-22 May 2019
Le Corum - Montpellier, France



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TABLE OF CONTENTS

■ Welcome address.....	IX
■ Committees	X
■ Organisers.....	XII
■ Sponsoring partners and exhibitors.....	XIII
■ Overall programme	XIV
■ Programme on Sunday 19 May	XVII
■ Programme on Monday 20 May	XVII
Plenary sessions	
■ Programme on Tuesday 21 May	XXI
Parallel sessions	
■ Programme on Wednesday 22 May	XXXVI
Parallel sessions & Plenary sessions	
■ Programme on Thursday 23 & Friday 24 May	XLIV

Abstracts of Parallel sessions

L1 Mitigating climate change with agroforestry	1
Posters.....	22
L2 Agroforestry and adaptation to climate change.....	55
Posters.....	75
L3 Agroforestry for combating land degradation and desertification in dry areas	106
Posters.....	116
L4 Agroforestry and biodiversity conservation.....	140
Posters.....	161
L5 Agroforestry for water quality and watershed restoration	195
Posters.....	206
L6 Social issues in Agroforestry systems (gender, migration)	213
Posters.....	224
L7 Jobs, business, finance: can agroforestry make it great?.....	229
Posters.....	239
L8 Scaling up of agroforestry innovations	248
Posters.....	259
L9 Value chains and certification of agroforestry systems and products	283
Posters.....	294
L10 Agroforestry in practice	311
Posters.....	332

Abstracts of Parallel sessions

L11	Agroforestry in public policies.....	398
	Posters.....	409
L12	Economics of agroforestry: the link between nature and society.....	426
	Posters.....	447
L13	Socio-economic and cultural constraints on technology adoption in agroforestry systems.....	466
	Posters.....	486
L14	Agroforestry landscapes.....	511
	Posters.....	522
L15	Urban and peri-urban agroforestry for food and nutritional security.....	546
	Posters.....	557
L16	Agroforestry mapping.....	559
	Posters.....	569
L17	Challenges, opportunities and trade-offs of agroforestry with perennial crops (coffee, cocoa, rubber, vineyards, orchards...).....	585
	Posters.....	605
L18	Cereals and annual crops in agroforestry.....	644
	Posters.....	655
L19	Silvopastoral system: promoting rural development by increasing tree-animal-pasture relationships.....	678
	Posters.....	688
L20	Agroforestry and agroecology: opportunities and challenges.....	716
	Posters.....	727
L21	Agroforestry germplasm.....	744
	Posters.....	755
L22	Agroforestry: pests, diseases and weeds.....	782
	Posters.....	793
L23	Root issues in agroforestry.....	800
	Posters.....	811
L24	Biophysical modelling of interactions in agroforestry.....	818
	Posters.....	829
L25	Open Session.....	848
	Posters.....	858
■	Authors'Index.....	874

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From left to right: Nathalie Villemejeanne, Sylvain Raffleau, Brigitte Cabantous, Laure Corbarieu, Nathalie Curiallet, Emmanuel Torquebiau, Sandrine Renoir, Christian Dupraz, Marie Gosme

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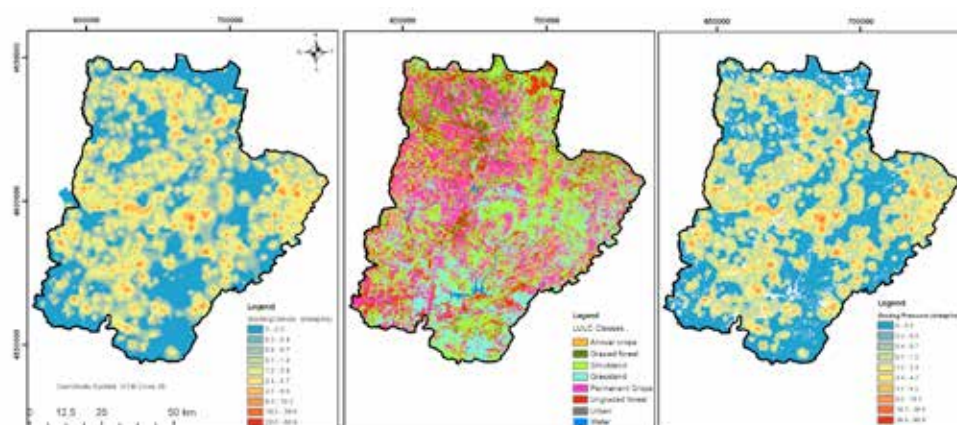


A new approach to quantify grazing pressure under Mediterranean pastoral systems

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Pastoral systems based on grazing itineraries, very common along the Mediterranean region, provides an opportunity to search feeding resources at landscape scale under a silvopastoral system called by San Miguel (2004) as “Mosaic of different land uses within one management unit”. However daily and seasonal movements of flocks bring on different Grazing Pressure (GP) over the landscape. This study presents an approach to modeling sheep GP under a Mediterranean pastoral system in Northeast of Portugal. The pressure of grazing in a given location depends on Distance from the stable to the border of the parish, Distance to the stable, Stocking Density (SD) (sheep/ha) and preferences for land use and land cover (LULC) (Castro et al., 2004). Geoprocessing integrates several geodatabases, a) land use (COS2015), b) parishes boundaries (DGT, 2017), c) stables location (0108_OTSA_2_E), and d) Sentinel-2 data. SD was performed by Multiple Ring Buffer tool and Ordinary kriging. Homogeneous LULC were obtained by Supervised classification algorithms. The COS2015 was used to establish a mask of the urban area and ungrazed forests. The best performing preferences classifier was Random Forest (kappa=89,3%; global accuracy= 91%). Integrating the LULC grazing and the SD (Weighted Overlay tool) allows to calculate and to map the GP (figure 1). The most common GP in grazing classes is about 4.7 sheep/ha.



Grazing pressure and the LULC classes in Northeast of Portugal

Keywords: LULC classification, silvopastoral system, geoprocessing.

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