European Non-Wood Forest Products (NWFPs) Network

COST Action FP1203 MC/WG Meeting

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Forest grazing in Greece

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Forest Grazing is a traditional practise in the Mediterranean Region

Silvopastoralism is well adapted to this environment

Main types of forests that grazed

- Evergreen shrublands
- Deciduous oak woodlands
- Pine forests

Benefits of forest grazing

May increase forage yield and nutritive value

Reduce wildfire risk

Enhance biodiversity

Benefits of forest grazing

Tab. 1. Species richness (N), Shannon-Wiener diversity index (H), Shannon-Wiener evenness index (E), Simpson diversity index (C) and Berger Parker dominance index (D) for the total vegetation (mean ± S.E.) at the different distances from the goat corral

Distance (m)	N	H	E	C	D
50	16.3±2.3 [a]	2.07±0.29 [a]	0.47±0.06 [a]	6.21±0.62 [c]	0.39±0.03 [a]
150	15.3±2.2 [a]	2.11±0.29 [a]	0.48±0.07 [a]	7.20±0.40 [bc]	0.34±0.01 [ab]
300	16.7±4.9 [a]	2.25±0.26 [a]	0.51±0.06 [a]	8.41±0.44 [b]	0.28±0.02 [bc]
600	17.7±3.5 [a]	2.32±0.28 [a]	0.52±0.06 [a]	9.67±0.43 [a]	0.27±0.02 [c]
1200	16.7±1.8 [a]	2.34±0.05 [a]	0.53±0.01 [a]	7.84±0.46 [b]	0.29±0.02 [bc]

Note: Means in the same column followed by the same letter are not significantly different (LSD test, $P \leq 0.05$)

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Soil Properties and Plant Community Changes along a Goat Grazing Intensity Gradient in an Open Canopy Oak Forest

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Problems of forest grazing in Greece

- Communal grazing
- Lack of management plan
- Legislation

Overgrazing – Undergrazing

Agroforestry

The appropriate choice of the understory forage species has a significant impact on the success of the silvopastoral system

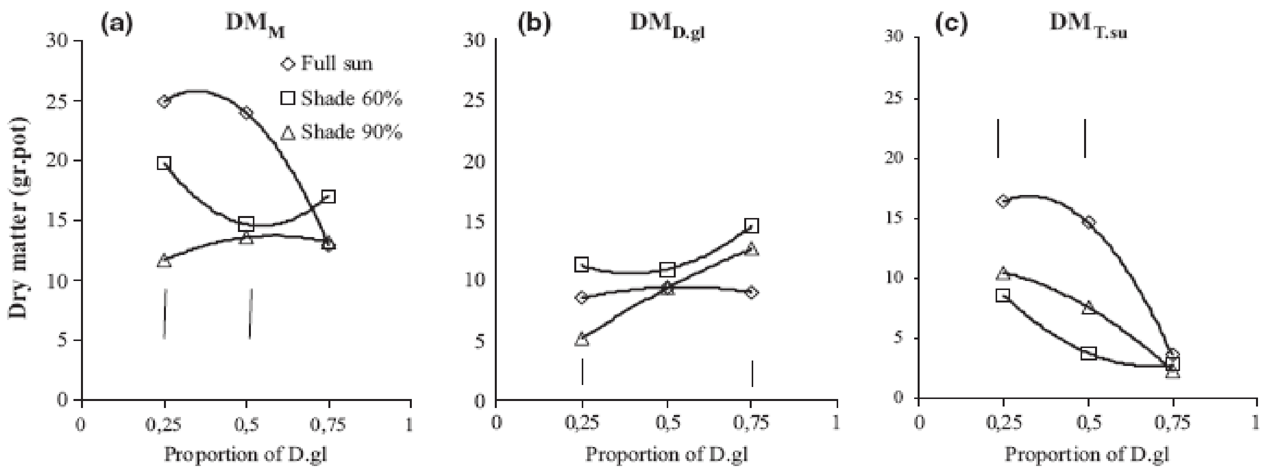

Figure 2 Dry matter (g per pot) of the mixtures (a) and the component species *Dactylis glomerata* (b) and *Trifolium subterraneum* (c) in full sun (◇), shade 60% (□) and shade 90% (Δ).

Grass and Forage Science
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Forage production and nutritive value of *Dactylis glomerata* and *Trifolium subterraneum* mixtures under different shading treatments

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Agroforestry

The use of the most shade tolerant cultivars of selected species is also important for successful silvopastoral management

Table 4 The effect of populations (across shade level) on herbage production and leaf growth characteristics of individuals of *Dactylis glomerata* during the two years of the experiment (mean ± SE)

	2009			2010		
	Taxiarchis	Pertouli	Crete	Taxiarchis	Pertouli	Crete
DM (g pot^{-1})	3.3 ± 0.4a*	3.5 ± 0.5a	1.7 ± 0.2b	4.8 ± 0.9b	6.1 ± 0.8a	1.9 ± 0.3c
Tiller (No pot^{-1})	39 ± 1.0b	44 ± 1.4a	34 ± 0.9c	47 ± 1.3b	59 ± 1.6a	60 ± 1.7a
SH (cm)	8.0 ± 0.2a	7.4 ± 0.1b	6.8 ± 0.1c	9.1 ± 0.2	9.4 ± 0.2	9.3 ± 0.2
LAI (cm^2)	25 ± 1.5a	29 ± 2.4a	21 ± 1.6b	35 ± 1.8b	39 ± 1.2a	28 ± 1.2c
SLA (cm^2 g^{-1})	8 ± 0.6b	10 ± 1.1b	13 ± 1.2a	10 ± 1.2b	9 ± 1.4b	13 ± 1.0a
SER (cm $days^{-1}$)	0.12 ± 0.007a	0.10 ± 0.004b	0.09 ± 0.003c	0.10 ± 0.008	0.11 ± 0.009	0.11 ± 0.007
LAR (No $days^{-1}$)	0.07 ± 0.004	0.08 ± 0.004	0.08 ± 0.006	0.08 ± 0.005	0.08 ± 0.005	0.08 ± 0.006
a (No)	1.4 ± 0.09	1.4 ± 0.10	1.4 ± 0.10	1.5 ± 0.10	1.5 ± 0.09	1.6 ± 0.11
LER (cm $days^{-1}$)	1.1 ± 0.04b	1.2 ± 0.06a	1.0 ± 0.05b	1.0 ± 0.04b	1.1 ± 0.07a	0.9 ± 0.04c
LED (days)	19.6 ± 0.9	19.2 ± 0.9	18.7 ± 0.6	18.2 ± 0.8	18.4 ± 0.6	20.3 ± 0.6
FLL (cm)	22 ± 1.2a	23 ± 1.3a	18 ± 1.0b	19 ± 0.9b	21 ± 1.1a	18 ± 0.9b

SH stem height, *LAI* leaf area index, *SLA* specific leaf area, *SER* stem elongation rate, *LAR* leaf appearance rate, *a* leaves growing simultaneously on the same tiller, *LER* leaf elongation rate, *LED* leaf elongation duration, *FLL* full leaf length

* Different letters in each row for the same year indicate significant differences ($P \leq 0.05$)

Growth, dry matter production, phenotypic plasticity, and nutritive value of three natural populations of *Dactylis glomerata* L. under various shading treatments

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Future work in WG

- Forest grazing status in COST countries
- Benefits
- Problems
- Solutions

Thank you!