**Title**: Spatial variability of the nutritive value of the main feeding resources of Montado and Dehesa

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*Montado* in Portugal and *Dehesa* in Spain are open savannah-type woodlands covering about 6 million ha and comprising mainly cork (Quercus suber) and holm (Q. rotundifolia and Q. ilex) oaks. Although Montados and Dehesas may differ, they both are exploited through multiple land use where the main income is extensive livestock production. For both systems, the main available feed resources are pastures and acorns during the acorn season “montanheira” (November to February) . Obvious sources of variation of the nutritive value of those resources are pasture management options (natural vs sown) and oak species (Q. suber vs Q. rotundifolia) respectively. Furthermore, it is well documented and also expected that a considerable variation on the nutritive value of these feed resources occurs both temporally as well as spatially.

The objective of this study was to describe the spatial variation of the nutritive value of pastures and acorns across 24 farm estates located in Alentejo (Portugal) and Extremadura (Spain) and relate it to biophysical characteristics of those areas. The identification of regions with similar pasture and or acorns nutritional characteristics may enable a tailored feeding management which is translated in a more efficient use of resources.

Nutritive value data (proximate composition, antioxidant composition and fatty acid profile) were collected from 100 samples of pastures and 100 samples of holm and cork oaks acorn kernels. Samples were collected from 50 different geographical locations and biophysical characteristics such as soil, , topography, temperature, precipitation, and water availability of those locations were also obtained.

A spatially constrained cluster analysis was performed, and preliminary results identified 3 clusters which for pastures, were mostly defined by crude protein concentration, detergent fibre (NDF), α-tocoferol and palmitic acid. These results indicate that mapping the nutritive value of montado and dehesa feed resources is possible and may support farmer decisions on grazing and feed supplementation form farm management.