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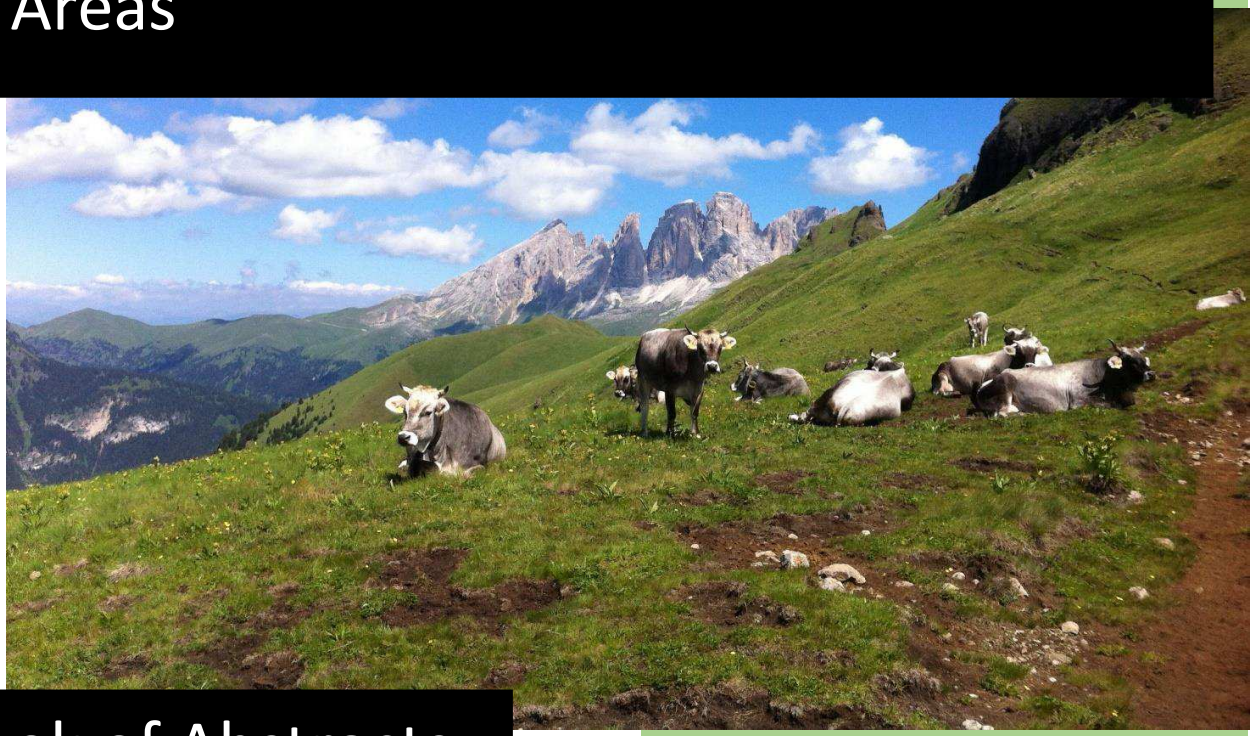

Book of Abstracts

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Session 3a: Mountain Livestock and Landscapes Biodiversity

Agro-ecological typization of hay meadows in mountain areas: a tool for the sustainable management of local forage resources

Silvestri Silvia[1], Gubert Francesco[2], Franchi Roberta[3], Grandi Luca[4]

Fondazione Edmund Mach, San Michele all'Adige, Italy[1,3,4], Independent contractor, Primiero San Martino di Castrozza, Italy[2]

Detailed knowledge about the agro-ecological characteristics of cut meadows represents the basis for any planning and management improvement effort. In the past years, a scientific classification and agro-ecological typization of hay meadows of the Trento Province (Italian Alps) was carried out by Scotton et al. (2012), with a comprehensive characterization of terrain morphology, climatic conditions, geological and biological features, and management practices. This classification, consisting of 44 botanic units and 17 botanic types, had not been spatially implemented yet. In the present study, extensive agro-botanical field surveys were conducted, to produce a detailed cartography of cut meadow types on over 1.000 ha agricultural land. Resulting spatial information was integrated in a GIS environment with available data layers regarding orography, soil types, property structures, biodiversity patterns and landscape elements. Further data about forage productivity, herd size and composition, stabulation type and effluent management were collected when necessary. The informational tools developed were applied at both single and multiple farm scale and regarded the computation of nitrogen balances and effluent spreading plans, the estimation of forage production potentials and forage self-sufficiency, the definition of practices for the maintenance of high biodiversity meadows, the quantification of costs related to non-ordinary management patterns for the protection of endangered plant and animal species. The most important innovation element is represented by the spatial scale, which enables to deliver agro-botanical and management information about hay meadows at the single-plot level. Further developments regard the implementation on a larger geographic level as a tool for the design of best management practices and policy measures in the Rural Development Programme.