



THE MOUNTAINOUS AREA OF ROMANIA AND THE TRADITIONAL MANAGEMENT OF THE ARNICA MONTANA L. GRASSLANDS

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Romania's mountainous area represents 30 % of the national territory having 3536 component villages. Specific to mountainous area is the chain of Carpathian Mountains measuring up to 68000 km². The landed fund from the mountainous area in Carpathian Mountains is 7, 325 mil ha of which 2, 894 mil ha agricultural land and 4, 430 mil non-agricultural land (table 1). Within the households in mountainous area, great numbers of animals are being raised: cattle, sheep, goats (table 2). Due to the rich species composition that is to be found in the area, a special interest is being shown by the beekeeping. The human population in the mountainous area represents 15 % out of Romania's population, approximately 3 mil of people, of which 1,4 mil are farmers performing a traditional agriculture. The population in this region is organised in 954922 households of which a number of 815813 households own 2,9 mil ha of agricultural land. The mean area owned by a household ranges depending on the elevation at which the household is being situated, as well as on the age of the landowner. If at an elevation of 600 – 700 m the mean per household is 2.1 – 2.5 ha, at an elevation of over 800 m, the mean per household is 3.5 – 4.5 ha, in this area can be also noticed a raise of the animals number, especially cattle.



The structure of landed fund in the mountainous area (by The National Agency of Mountainous Area)

Land Use	Area (1000 ha)
Total landed fund	7, 325
Agricultural land:	2, 894
Arable land	616
Orchards	53
Pastures	1, 283
Afforested pastures	201
Hay meadows	938
Non-agricultural land:	4, 430
forests and forest vegetation	4, 005
others	424

The status of animal number in the mountainous area (by The National Agency of Mountainous Area)

The animal species	The animal number	
Cattle in total	749973	
milking cows		415861
Buffalos in total	17130	
milking buffalo cows		11975
Sheep in total	1,997729	
milking sheep		1425061
Goats in total	157522	
milking goats		110068
Bee families	166334	



In Apuseni Mountains (Western Carpathians), the traditional management performed on grasslands has generated a specific cultural landscape with rich species diversity. *Arnica montana* L. species frequently occurs on *Nardus stricta* L. meadows on siliceous substratum. This habitat type (Code 6230) is listed in the EU-FFH-directive (92/43) (Michler et al., 2005). Romania is one of the main source countries of dried *Arnica montana* L. flower heads processed in Central Europe.

Most of the *Arnica montana* L. (Arnica) meadows are spread on sloping terrain with defective orography. On Arnica meadows, maintenance tasks like: gathering rocks, destroying molehills, removing wooden vegetation, fighting against weeds, fertilization and other tasks are being performed. The most applied maintenance tasks are gathering rocks and fertilization. All maintenance tasks are manually carried out, using different tools, and, during fertilizers' application, horse carts are being used. Fertilization of Arnica oligotrophic meadows is only organic performed, generally using manure, which comes from cows and horses and having no longer period of existence than 6 months (Pacurar et al., 2007). After spreading, the manure is crushed with a harrow. This harrow is a tree branch on which rocks are being laid and the harrow is drawn by a horse. The uncrushed manure will be gathered by rake and will be deposited in piles.

In most of the cases, the *Arnica montana* L. oligotrophic grasslands are being used in a mixed manner (mown and grazing) or only through grazing.

In general, mowing is manual performed and the starting moment of mowing is established in accordance to the calendar date. The Arnica grasslands are mown later comparatively to other land in property, in general by the end of July and at the beginning of August. The mowing height is 2-3 cm or "shaved". In general, grasslands are annually mown and a single harvest per year is being taken. The grass is being dried on the soil. Concerning grazing, the starting moment is established by chance and rarely by grass' height. Grazing is being stopped at the beginning of winter. Grazing is generally carried out by cows and horses (Gârda, 2007).

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