

COMPARATIVE PLANT LIFE EXAMINATION ON PASTURES OF  
BETWEEN DANUBE AND TISZA (HUNGARY)

EXAMINARE COMPARATIVĂ A VIETII VEGETALE PE  
PĂȘUNILE DINTRE DUNĂRE ȘI TISA (UNGARIA)

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*Coenological relevés were prepared in 2007 on the Great Hungarian Plain. Areas situated inside and near (0 to 50 meters far from) an animal farm belong to the first group. The second group gained from areas situated 50 to 150 meters far from intensively used areas. Data evaluation was made with considering naturalness state in case of habitats, and on the other hand, according to relative ecological factors of occurring species. Besides observing the effects of grazing on vegetation, we have also concentrated on how to strain of effects of trampling.*

**Keywords:** *grazing, trampling, alkali grassland, coenological examination*

### INTRODUCTION

The agricultural production is going on at the significant part of the total area of Hungary. Thus it is understandable that nature conservation activity is dependent on the cooperation with agriculture. In the conservation of these areas grazing animal husbandry could own a determinative role. However the nature conservation activity is prominently important, it is not suitable also for the economically suitable management of protected grasslands (Antal-Huzsvai, 2007, Béri *et al.* 2004) The total cover of grasslands exceeds 1148000 hectares. 213468 hectares of this being under nature protection (Ángyán, 2000). This is why harmonizing aims and tasks of agriculture and nature conservation is highly important on these areas (Szentes *et al.* 2007).

Overgrazed parts had already been transformed into anthropogenic, degraded ruderal areas with little botanical; the grassland became even

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in species. The composition of dominant species in grasslands further from the summer lodging has not changed significantly (Penksza *et al.*). Based on the investigations it can be stated that areas grazed to a extent are in good condition from a botanical point of view though some of several protected species have thinned or disappeared. (Görcs 2007). The vegetation of the alkali grasslands close to the sampling of our publication was studied by Bodrogeközy (1980) and Bodrogeközy Iorváth (1969).

### MATERIAL AND METHODS

The coenological relevés prepared on two pasture-lands in 2007. Intensive grazing takes place on the other fenced area and a fold was built as well (group A). Those places are grazed by few animals belong to the second (B) group. Places are farther on 150 meters belong to the third (C) group. Botanical examinations followed the method of Braun-Blanquet, using 2x2 m quadrates. As evaluation, group unit share was counted based on covering rates. Among relative ecological value categories according to Borhidi (1995), areas were evaluated based on water demand (WB) and nitrogen demand (NB) values. Evaluation of social behaviour types were done according to Borhidi (1995) and ratio of nature conservation value categories according to Simon (2000). Species names follow the nomenclature of Simon (2000). In this paper we show the water demand and social behaviour type values.

### RESULTS AND DISCUSSION

The first area near Kunbaracs: Observing water demand values it can be stated that dryness tolerant plant species cover the highest rate (60-70%) while species preferring to semi-dry and semi-wet areas have a rate of about 10%. Variable water tolerant plant species appear in the third category (*Trifolium pratense*) rate of about 6% (Figure 1). The second area near Árszentgyörgy: Variations are larger in the different categories. Dryness tolerant plant species cover the highest rate (60%) in the first category. Species indicating semi-wet or wet habitats cover a bigger rate too. Plant species of wetter habitats flourish in far from stall.

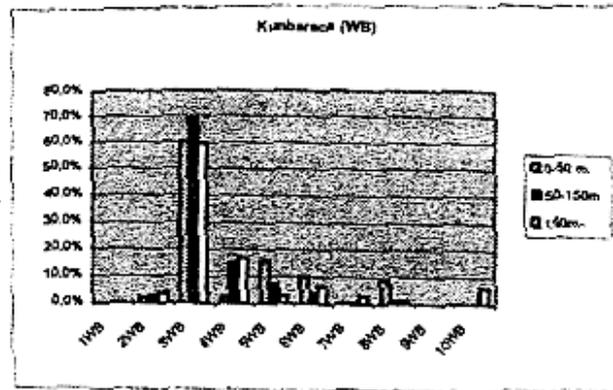


Figure 1. Relative groundwater and soil moisture demand values (Kunbaracs)

### Social behaviour types of species

Greatest part of species found on the observed areas belong to the group of natural disturbance tolerant (DT) and ruderal competitors (RC), specifically nearest category of areas (Kunbaracs). Rate of competitor (C) plant species highest in farthest category (60%). High disturbance tolerant generalist rate is significant in the third category.

Social behaviour type values of species show similar result to previous area, but rate of ruderal competitors (RC) higher (66%). Rate of indicating to deterioration group high in both area (0-50 meters and 50-150 meters far from the animal husbandary farm). Rate of competitor (C) plant species highest in farthest category (70%) (Figure 2.)

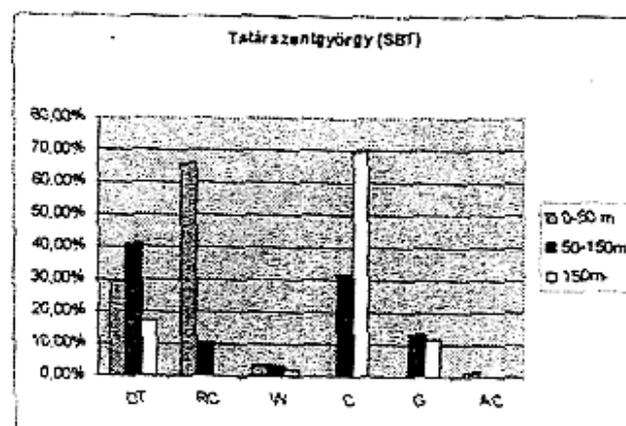


Figure 2. Social behaviour type values (Tatárszentgyörgy)

Aggressive and invasive plants are appears in both area. Rate of aggressive plants are higher nearest the animal husbandary farm. Particularly, deterioration of areas could experienced. These negative processes are extremely heavy inside and near the animal husbandary farm. Farther from, the farm, rate of degradation showed by vegetation has decreased compared to the areas closer to the farm.

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