Floristic composition as a parameter of the quality of the grassland type *Festucetum vallesacae* in theStara Planina hilly-mountainous region of Serbia

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Introduction With the increase of sea level and changes of climatic conditions, the possibilities for growing cultivated forages decreases. Therefore natural grasslands will become more important in relation to livestock nutrition. This will increase the importance of the nutritive value of these natural grasslands that have very diverse and dynamic floristic composition. The quality of the grassland depends on species categorised as grasses, legumes and other species. Other species were often regarded as harmful in regard to quality, however, they often contain many medicinal and stimulating substances that may have beneficial effects on animals and on the quality of animal products (Djordjevic-Milosevic, 1997). Conversely, there are also weed and harmful species among grasses and legumes. however, among species from other families there are also useful species. To provide nutrition of livestock from quality grasslands melioration measures are necessary. This paper reports on the composition of grasslands in Stara Planina and provides information on the proportion of useful species.

Materials and methods The grassland type *Festucetum vallesiacae* was sampled at four locations on Stara Planina at 750-800m above sea level. Samples were taken from an area of $1m^2$. Floristic composition was determined on a weight basis and qualitative categorisation of species was carried out according to Kojic (1990, 2001).

Results The *Festucetum vallesiacae* grassland had 77 species. By weight the grassland comprised 65.2% grasses, 24.5% legumes and 10.2% other plants. Tomić *et al*. (2003) reported that the natural grasslands of Stara Planina at 800m above sea level comprised 42.4% grasses, 44.0% legumes and 13.6% other species. The most present species was *Festuca vallesiacae,* followed by: *Agrostis capillaris, Cynosurus cristatus, Poa violacae, Trifolium campestre, Medicago lupulina, Lotus corniculatus, Galium verum, Achillea millefolium*, as characteristic species of association.

Table 1 The composition of the association *Festucetum vallesiacae* categorised in qualitative groups (% by weight)

Association	Useful grasses	Useful legumes	Other useful sp.	Weeds	Total useful
Festucetum vallesiacae	14.47	26.32	3.95	55.26	44.74

When categorised as in Table 1 the highest percentage was for weeds 55.26%, with useful plants totalling 44.74%. The weed group included worthless, harmful and poisonous plants among which were a great number of grasses and legumes. This highlights the point that high weight presence of grasses in grassland does not give a good indication of the quality of the grassland. The weed species with significant presence were *Festuca ovina, Dorychnium herbaceum,Thymus serpyllum*, *Teucrium chamaedrys,Linum, catharticum, Holcus lanatus* and *Hypericum perforatum.* These indicated the low quality of the grassland.

Conclusion The association *Festucetum vallesiacae* had a total of 77 plant species, of which 42 are categorised as worthless and harmful, including grasses, legumes and other plants. These species comprised 55.26% of the grassland by weight. Because of low quality and problems with growing cultivated forages in this region, measures for revitalisation of natural grasslands are necessary in order to obtain forage of better quality and safety.

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