

FERTILISATION IMPACT ON TOTAL FIBRE CONTENT OF A BANAT HILL GRASSLAND SPONTANEOUS FLORA IN SPRING

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Abstract

This study was conducted to estimate that organic fertilisation with sheep manure or mineral fertilisers had impact on the total fibre content in spring of spontaneous flora which covered a hill permanent grassland situated on a Calcic Luvisol in Romanian Banat County. The experimental field was organised respecting the complete randomised block design with five replications for each trial. The trial surface was 25 m². The total fibre content was determined using Weende method (AOAC method 962.09, Edition 15/1990). For these research it was selected a number of seven trials with different fertilisation (mineral or organic) and it was computed a multivariate analysis technique model based on Principal Components & Classification Analysis (PC&CA), using as active variables: fertilisation data; soil ecological parameters; and total fibre content of grassland spontaneous plants harvested in the middle and at the end of May 2008. As supplementary variables were used data of individual contribution (%) to the hill grassland spontaneous covering biomass of: *Festuca rupicola*, *Calamagrostis epigejos*, *Trifolium repens*, *Inula britannica* and *Filipendula vulgaris*. The percent of individual participation of selected spontaneous plants species in hill permanent grassland flora was determined gravimetrically. The first two principal components, PC1 and PC2, explained around 85% of total variance of PC&CA model. The analysed data have shown that in clime and soil conditions of May 2008 from Banat County, the mineral fertilisation had a high positive impact on total fibre content of spontaneous dominant grass from hill permanent grassland in both cases: in the middle and at the end of month.

Key words: fertilisation, total fibre, grassland, multivariate analysis, quality.
