THE INFLUENCE OF THE APPLIED MANAGEMENT ON THE PHYTODIVERSITY OF A *Dichanthium ischaemum* (L.) Roberty PERMANENT MEADOW

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Abstract

Biodiversity conservation is essential in the fight against climate change. Nothing can reduce global warming or the effects of climate change better than healthy ecosystems. And grasslands have a key role in maintaining the balance of ecosystems because many species live here or are linked to them. The application of organic and mineral fertilizers for extended period of time has determined a high biodiversity of the investigated grassland. The objective of this study was to determine the effect of the applied management on the phytodiversity of a *Dichanthium ischaemum* (L.) Roberty permanent meadow in the Moldovian forest-steppe. The experience field was organized on a permanent grassland of *Dichanthium ischaemum* (L.) Roberty in Andrieșeni locality Iași, county framed between the parallels 47°30' 45.2" N and 27°15' 42.0" E. The experimental factors were represented by the harvesting phenophase with three graduations: a_1-harvesting at plants height of 15-18 cm, a_2-harvesting at the ear formation (control), a_3-harvesting to full flowering and fertilization with seven graduations: b_1- unfertilized (control), b_2- $N_{50}P_{50}$ kg/ha^{-1} annually, b_3- $N_{75}P_{75}$ kg/ha^{-1} annually. b_4- $N_{100}P_{100}$ kg/ha^{-1} annually, b_5-10 Mg·ha^{-1} sheep manure annually, b_6-20 Mg·ha^{-1} sheep manure annually and b_7- 30 Mg·ha^{-1} applied at two years. The study shows that the applied fertilizers influenced the floristic composition, producing appreciable, quantitative and qualitative changes in the plant cover. The number of species, as well as the variation of the Shannon diversity index, were largely influenced by the amount of mineral N, the amount of manure, but also by the climatic conditions of the experimental period.

Key words: permanent grasslands, organic and mineral fertilization, harvesting phenophase, plant diversity