THE INFLUENCE OF CUTTING frequency of A mountain MEADOW ON YIELD AND CHEMICAL COMPOSITION OF PERCOLATING WATERS (LYSIMETER STUDIES)

Key words: abandoned fertilization, biomass yield, deep infiltration, mountain meadow

Summary

The paper presents the effects of different use of a mountain meadow on biomass production and deep infiltration. We aimed at evaluating vegetation and water-soil environment at reduced utilization of the grassland. The experiment was carried out with the lysimeter method. The following objects were considered: 1 - abandoned arable land, 2 - not mown meadow, 3 - once cut meadow, 4 - twice cut meadow, 5 - thrice cut meadow, 6 - fourfold cut meadow, 7 - fallow land. Objects were not fertilized, otherwise the grassland was treated in the way common for everyday practice.

Yielding of every mown object was high, reaching generally over 10 t·ha⁻¹ DM. The highest results were obtained from the meadow cut two and three times per year, while the meadows cut once and four times appeared to be weaker. The level of deep infiltration varied with the number of cuts. It was found that with the rising number of cuts, the amount of water leaving a soil profile increased. The lowest results were noted when the grassland was not cut at all or was cut once a year.

The study revealed changes in chemical composition of precipitation in the course of deep infiltration due to the use of experimental object. The loads of particular mineral components leaving soil differed. The losses of mineral components were related to the quantity of percolating waters. The highest losses were noted for the object devoid of permanent vegetation, then for the grassland cut more frequently. Abandoned and rarely cut meadows seemed to protect the soil from mineral losses.

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