

H. PANAKHYD, H. KONYK

Institute of Agriculture of Carpathian Region of NAAS

ENERGY EFFECTIVENESS OF WAYS IMPROVEMENT OF DIFFERENT AGE GRASSLANDS

The results of researches about the influence of surface and radical improvement of meadow lands on dry matter yield, gross and exchange energy output have been presented.

Experimental work was carried out at the Institute of Agriculture of the Carpathian region of NAAS on a reconstructed long-term stationary experiment.

It was established that long-term meadow agrophytocenosis for lack of mineral fertilizers supplied is $3,78 \text{ t ha}^{-1}$ dry matter yield on average for 37–41 years of use. Application of nitrogen fertilizers on the background of phosphoric-potash fertilizer has contribute to increase of productivity in 2–2,5 times. The greatest impact on the yield of long-term grasslands had doses of nitrogen fertilizers. In the uniform distribution at a three-time the use of 120 kg ha^{-1} of the active nitrogen substance has provided $8,93 \text{ t ha}^{-1}$ of dry matter yield, and the introduction of 150 kg ha^{-1} of the active substance of nitrogen fertilizers – $9,91 \text{ t ha}^{-1}$.

The highest yield (8.99 t ha^{-1} of dry matter) of the new established legume-grass grasslands was obtained for fertilization with compositional organic-mineral fertilizer dobrodi under the background of phosphoric-potassium fertilizers and liming.

Long-term meadow agrophytocenosis for full mineral fertilizers ($\text{N}_{150}\text{P}_{60}\text{K}_{90}$) with a uniform distribution of nitrogen fertilizers for each cutting has provided a gross energy output at the level of $1872,1 \text{ GJ ha}^{-1}$ and exchange energy – $88,5\text{--}98,2 \text{ GJ ha}^{-1}$.

The energy potential of the new established legume-grass grasslands was the largest realized for the use of composite organic-mineral fertilizer dobrodi under the background of phosphorus-potash fertilizer and liming – $1700,0 \text{ GJ ha}^{-1}$ of gross energy and $81,9\text{--}93,3 \text{ GJ ha}^{-1}$ of exchange energy.