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Mariia Chomiak

Institute of Agriculture of Carpathian Region of NAAS

**THE MANIFESTATION OF STABILITY AND PLASTICITY
OF ORCHARD GRASS (*DACTYLIS GLOMERATA* L.)
VARIETY-SAMPLES IN PRE-CARPATHIAN CONDITIONS**

Global climate warming, which began at the end of the twentieth century, certainly affects all sectors of the national economy, and especially on the breeding of orchard grass plants. Due to global changes in climatic conditions of growing crops, there is an urgent need to introduce principles and methods of adaptive breeding into the breeding process. Indicators of the reaction of genotypes to changes in environmental conditions characterize the properties of the variety – its plasticity and stability in the implementation of the level of development of traits.

The studies were carried out in the laboratory of grass breeding (v. Lishnya, Pre-Carpathians zone) on *Dactylis glomerata* L. variety samples, which were grown on sod-medium podzol sod-medium-glue loamy soil formed on diluvial sediments in the stationary experience of the Institute of Agriculture of Carpathian Region of NAAS.

Studies were conducted in 2012-2016. Sixteen specimens of orchard grass became the material for the study. For five years of research, the breeding numbers have realized their genetic potential of productivity in different ways. The study of the breeding material in different hydrothermal conditions of the year provides information about the characteristics of the genotypes reaction to change environmental conditions.

For a more balanced assessment of the impact of meteorological conditions of the growing season on the yield of green mass of orchard grass, we conducted a distribution by ranks of the regression coefficient and the stability variance. For each parameter, three ranks were established according to such principle: the regression coefficient (b_i): 1 – $>1,39$; 2 – $0,85-1,26$; 3 – $<0,85$; Stability variance (Si^2): 1 – $0-0,96$; 2 – $2,32-4,36$; 3 – $>4,36$. With such a distribution, rank 1 indicates the most optimal meaning of this value, and the sum of the ranks can be resulting indicator of the ecological adaptability assessment of orchard grass genotypes relative to the yield of green mass. The higher rank of varieties that are tested, compared with zoned variety, the higher the economic value it has. The highest

breeding value had three samples with the sum ranks 2 and 3, isolated in different years of study: № 902 (3), № 991 (2) and № 913 (3).

In our studies, the breeding number № 993 manifested to be the most stable. This is indicated by the smallest value of the variation coefficient (5,2 %) and high homeostaticity (101,8).

One of the priority tasks of orchard grass breeding is the creation of new high-yielding varieties that are characterized increased adaptability to stressful situations and resistance to biotic and abiotic factors. The following samples should be used: № 993, № 912, № 991, № 992 and № 989 to create high-yielding varieties of this crop with high ecological parameters of adaptivity.