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**CHARACTERISTIC OF OAT COLLECTION SAMPLES
DIFFERENT ECOLOGY-GEOGRAPHIC ORIGIN
AT CONDITIONS OF WESTERN FOREST-STEPPE**

An aim of our research was to study the collection samples at conditions of western Forest-Steppe for biologic farm indices, to definite the correlative ties between ones and to establish the sources of valuable traits.

Experimental part of investigation was conducted in 2012–2014 on fields of laboratory breeding of grain and fodder cultures at conditions of breeding-seed growing crop rotation in Institute of Agriculture of Carpathian Region of NAAS. 27 variety-samples of different ecology-geographic origin that received from National Centre for Plant Genetic Resources of Ukraine and 6 breeding lines were used in definition of biologic farm peculiarities of oat genotypes.

In our investigations the high variability of samples resistance to crown rust was in 2012 (coefficient of variation 32,33 %), what was conditioned by contrasting weather conditions. For results of three-years researches the resistant samples were not manifested to this disease. For resistance of oat plants to *Helmintosporium* leaf and panicle blotch the high variability was in 2012 and 2013 (coefficient of variation was 40,43 and 50,76 % accordingly) that indicated on important role of meteorologic factors for infection plants by diseases. Two samples of Ukrainian origin IZO-13 and Zakat were resistant to pathogen of *Helmintosporium* (point of resistance 1).

Fluctuations of vegetative period duration were in limits 102,7–117,3 days in dependence of genotype. The most early-maturing was variety Hyunter. 8 samples were resistant to lodging (8–9 points) in period of full maturing, and separatety from Ukraine – Slavutych, Desniansky, Parlamentsky, Zirkovy, Skarb of Ukraine, Poland – Bohun, Great Britain – Brochan, Russia – Orion.

Yield of collection samples of different ecology-geographic origin characterized with high variability ($V = 22,08\%$) and an average for three years was 5,43 t/ha and extent of variation was 6,2 t/ha. It was discovered that variety-sample Polish origin Rajtar was very high productive (7,97 t/ha), four varieties of Ukrainian breeding (Zakat, Zirkovy, Parlamentsky, Slavutych) and sample from Kazakhstan (Arman) were high productive –

accordingly 7,00; 7,41; 6,53; 6,33; 6,37 for yield of standard variety Chernigivsky 27 – 6,02 t/ha.

We observed significant variability of grain amount in panicle depending on genotype – from 47,8 to 100,8 grain. The highest grain amount in panicle was fixed in samples IZO-23, IZO-13 and Bohun – accordingly 100,8; 98,6; 99,6 gr. The very high grain mass in panicle (more 3 g) was found in Bohun, Arab, IZO-23. For 1000 grain mass (more 40 g) were selected 4 samples (Stendska mara, IZO-22, IZO-8, Rajtar), whose can be recommended as sources of farm valuable traits.

Analysis of correlative ties confirmed that average influence on grain yield have such indices: mass of grain in panicle and 1000 grain mass (0,51; 034). Strong correlative ties were established between amount of spikes in panicle and amount of grain in one ($r = 0,92$), and also between mass of grain in panicle and amount of grain in one ($r = 0,72$) and amount of spikes in one ($r = 0.69$).