

## PREVENTIVE EVALUATION OF DROUGHT RESISTANCE OF APPLE VARIETIES AND HYBRIDS

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In 2020, the central area of the Republic of Moldova was subjected to a terrible drought. The collection was established in the years 2007-2009, M26 rootstocks, and the selection orchard in the years 2009 - 2011 with planting distances of 4 x 1.5 and 4 x 0.75m, respectively. The 1878 hybrid plants and 203 cultivars, species and elites including 162 genotypes with genetic resistance to apple radish and 41 non-resistant were observed. The assessment of the reaction of the plants was carried out by scoring according to the scale 1-6 where: - 1 – no attack ... 6 - very strong attack, over 80% of the leaves have fallen and the rest are yellow, wilted and twisted. Precipitation in 2019-2020, in the months of October-April, was 60% less than normal. Average monthly temperatures between October 2019 and September 2020 were 3-5% higher. The observations were carried out between September 17-23, 2020 until the rains intervened. Data processing was performed in Excel using one-way analysis of variance without repetitions with the determination of partial differences between hybridization combinations and the level of heritability, H<sub>2</sub>%. A very weak reaction was observed in the trees of the Dalinred, Florina and Corelita varieties, weak in Nova Easygro and Generos, medium in the trees of the Priam and Dalinbel varieties and strong in Goldrush, Coredana, Coredar and Romus 2.

Hybrids of paternal varieties with genetic resistance to turnip Goldrush, Coredar, KV43, Coredana and Priam indicated medium drought attack and of paternal parental forms Rosyglow, Rubinola, Dalinbel, Ariane and non-resistant Granny Smith Spur, 1-11(6-10), Trident, Champion, Red Idared and Golden Delicious were heavily attacked by the drought.

According to the coefficient of heritability, H<sub>2</sub>, which in the analyzed hybrid combinations varies between indices 41.4 and 60.5%, there is the possibility of choosing the most suitable genotypes for the purpose of subsequent hybridizations for the creation of new varieties less affected by drought.

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