



THE BEHAVIOR OF PLUM VARIETIES IN THE CONTEXT OF CLIMATE CHANGE IN THE NORTHERN REGION OF MOLDOVA

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Abstract: *Were studied 6 plum cultivars as: Piteştean, Cacanska Najbolia, Empresso, Stanley, Blue Free and President (C), rootstock Prunus cerasifera Mhr, planting distance 5.0x3.0 m, crown shape mixed pyramid. It was established that during 2025 year the lower production, of 11.7 t/ha, was registered for the Blue Free variety, and higher production for the cultivars Piteştean (25.4 t/ha) and Cacanska Najbolia (27.6 t/ha). The other cultivars registered average values (18.3-21.7 t/ha). The ripening period for the studied cultivars was distributed over 45 days of harvesting.*

• Introduction

In the Republic of Moldova, the area cultivated with plums in 2024 was 17.1 thousand ha, which represents 16.0% of the country's fruit-growing area, and the fruit production was 94.0 thousand tons, returning 5.5 t/ha, respectively 15.9% of the country's entire fruit production, occupying second place after the apple species.

• Material and method

The weather conditions during 2025 were favorable for the growth and fruiting of plum trees. Biological, stationary field and laboratory methods accepted for conducting experiments with plum culture were applied to the research objectives. As part of the research, the diameter and trunk growth, the TCSA, the morphological parameters of fruits, the number of fruits in tree, their average weight, fruit production per tree, per unit area, as well as the production TCSA were estimated. The statistical processing of the main indicators was carried out by the method of one-factor analysis of dispersion using the ANOVA test.

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• Results and discussions

Higher trunk growth (10 mm) and TCSA (119.5 cm²) were registered for the Cacanska Najbolia variety. The ripening period for the studied cultivars was distributed over 45 days of harvesting. The seed/fruit ratio for the studied varieties varied between 4.1-6.5% and, respectively, 93.5-95.7%. In 2025, lower values of the trunk cross-sectional area were recorded for trees of the Blue Free variety (0.18 kg/cm²), and higher results were obtained for trees of the Piteştean variety (0.51 kg/cm²). Depending on the tree productivity obtained per unit of trunk cross-sectional area, the President, Empresso, Cacanska Najbolia and Stanley cultivars recorded average values of 0.32; 0.35; 0.35 and, respectively, 0.37 kg/cm².

• Conclusions

It has been established, that the biological characteristics of the variety, the climatic conditions and the age of the plantation have a direct influence on the number of fruits per tree, the average weight of plums, the fruit production per tree, per hectare and per unit of trunk cross-sectional area.