

PRODUCTIVITY OF THE PLUM PLANTATION DURING THE FRUITING PERIOD ACCORDING TO THE CULTIVATED ASSORTMENT

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The plum is considered a fruit species with long traditions of cultivation in the Republic of Moldova, having a particularly important role in the life of the local population, as its fruits have constantly been a financial source. In this study, the development and productivity of plum trees in an intensive cropping system during the fruiting period were characterized. The research was carried out during 2024 in the enterprise SRL „Agrofields”, plantation founded in the spring of 2018, with 6 plum varieties: Piteșteanca (control), Cacanska Najbolia, Espresso, Stanley, Blue Free and President. The trees were grafted on the Myrobalan seedling rootstock, tree spacing 5.0x3.0 m, with improved pyramid-shaped crown.

During the research, trunk diameter and growth, average fruit weight, productivity of a tree, plantation, and yield per unit area of trunk cross-section were studied. To achieve the research objectives, biological, stationary field and laboratory methods commonly used in plum crop studies were applied.

At the end of the growing season of 2024, the trunk diameter of the trees of the varieties under study increased, registering values between 87.8 mm and 113.4 mm, which corresponds to an increase of 8.3 - 9.9 mm, largely influenced by the plum production accumulated in the crown of the trees, as well as the biological characteristics of the varieties.

The study carried out on the ripening period shows that this phenophase started at 103 days after flowering for the earliest variety (Piteștean) and ended at 152 days for the President variety. Fruits of the Espresso variety are characterized by a flowering-ripening period of 126 days, Cacanska Najbolia and Stanley varieties of 127 days, and for the Blue Free variety this period was 137 days.

In the spring of 2024, the varieties included in the study set different quantities of fruit, from 370 to 773 pcs/pom. The lowest value was registered in trees of the Piteștean variety - 370 fruits and the highest in Cacanska Najbolia - 751 fruits and Stanley - 773 fruits. The President, Blue Free and Espresso varieties registered 397, 442 and, respectively, 447 fruits, in the crown.

The lowest average fruit weight was registered for Stanley (38.0) and the highest for President (54.7 g). The varieties Piteștean, Blue Free, Cacanska Najbolia and Espresso had average values of 47.3 g, 49.7 g, 50.6 g and, respectively, 51.9 g.

The lowest yield was registered by the variety Piteștean - 17.5 kg/pom, equivalent to 11.7 t/ha. The President, Blue Free and Espresso varieties had average yields: 21.7 kg/pom (14.5 t/ha), 22.0 kg/pom (14.7 t/ha) and 23.2 kg/pom (15.5 t/ha). Stanley yielded 30.0 kg/pom (20.0 t/ha) and Cacanska Najbolia produced 35.0 kg/pom (25.4 t/ha).

The lowest value of tree productivity per unit area of trunk cross-section area was recorded for Blue Free - 0.26 kg/cm², while higher indices were obtained for Cacanska Najbolia - 0.38 kg/cm² and Stanley - 0.40 kg/cm². The varieties Piteștean, President and Espresso were in the average group with 0.29 kg/cm², 0.30 kg/cm² and, respectively, 0.32 kg/cm².

For a more balanced distribution of production over the harvest period, it is recommended to supplement the assortment with 1-2 early varieties, end of July - beginning of August.

Keywords: plum; varieties; diameter increment; crop yield

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