

BIOLOGICAL AND PRODUCTIVE CHARACTERISTICS OF MEDIUM LATE SWEET CHERRY CULTIVARS IN THE REGION OF BELGRADE, SERBIA

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In the period of six years (2017–2022) in the area of Belgrade, the phenological characteristics, vigour, yield and fruit quality of ten sweet cherry cultivars of medium late ripening time were examined. The ‘Van’ cultivar was used as a control for comparison. All cultivars were grafted on ‘Gisela 6’ (*Prunus cerasus* × *Prunus canescens*) rootstock. Planting distance was 4 m × 2.2 m, and training system was modified Slender Spindle.

Compared to the control cultivar, the average flowering time was 1–9 days later, except in the cultivar ‘Samba’ where it was two days earlier. Average ripening time was from June, 5th to June 10th. The lowest average yield per tree was obtained in the cultivar ‘Samba’ (3.6 kg), and the highest in the cultivar ‘Benton’ (5.3 kg). In three of the six years of research (2019–2021), late spring frosts in the flowering phenophase occurred, which significantly reduced the yield. Compared to control cultivar (‘Van’) significantly higher vigour, expressed as the trunk cross-sectional area had four cultivars (‘Black Star’, ‘Grace Star’, ‘Benton’ and ‘Samba’). The cumulative yield efficiency for a period of six years ranged from 0.13 kg/cm² in cultivar ‘Black Star’ to 0.40 kg/cm² in control cultivar (‘Van’).

The average fruit weight was the lowest in the control cultivar ‘Van’ (6.9 g), and it was statistically significantly lower compared to all other studied cultivars. The largest fruit was found in cultivars ‘Carmen’ (12.3 g) and ‘Grace Star’ (11.6 g). Fruit shape index ranged from 0.80 in cultivar ‘Carmen’ (flat-round shape) to 1.03 in cultivar ‘Tieton’ (heart shape). The content of soluble solids varied from 16.6 % (‘Carmen’) to 19.4 % (‘Grace Star’), and the total acid content ranged from 0.83% (‘Carmen’) to 1.08 % (‘Vega’). The cultivars ‘Carmen’, ‘Grace Star’, ‘Black Star’ and ‘Vega’ received the highest scores for the fruit appearance, and the cultivars ‘Starking Hardy Giant’ and ‘Grace Star’ for the fruit firmness. Highest score for taste was obtained in cultivar ‘Grace Star’.

Based on the obtained results, for cultivation in the Belgrade region, the cultivars ‘Carmen’, ‘Grace Star’, ‘Black Star’, ‘Tieton’ and ‘Samba’ can be recommended.

Keywords: Prunus avium, flowering, ripening, yield, fruit quality.