

## Rootstock and Cultural Conditions Affect Sweet Cherry Fruits Composition

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### SUMMARY

The demand for sweet cherries (*Prunus avium* L.) fresh fruits consumption in Romania has been increasing gradually over the last few years, suggesting that production should be more expanded. More and more private investors established their modern cherry orchards to meet market demands. In order to find the most suitable combination between cultivar, rootstock and agroecological conditions which respond with high productivity and better fruits quality, a study has been started in different areas and take into consideration a large number of varieties and rootstocks combinations. The trial was carried out as follows: in north of the Bucharest in the experimental field of UASVMB, at the Istrita Fruit Nursery Station, Buzau and at Moara Domneasca Didactic Farm, Ilfov. The studied sweet cherry varieties were , 'Kordia', 'Ferrovia', 'Firm Red', 'Giant Red', 'Early Red', 'Van', 'Stella' and 'Skeena'. The rootstocks used for these cultivars were PHLC, CAB6P, CAB11E, Colt and *P. mahaleb*. Biochemical analyses have been done in the UASVMB laboratory. For the scion–rootstock combination, soluble solids content concentration was determinate using a digital refractometer, titratable acidity by tritometry with KOH 0,1N, ascorbic acid by extraction in oxalic acid 1% and HPLC dosage and anthocyanins content by spectrophotometric determination after an HCL 1% methanol extraction. The biggest fruits were collected from GiantRed/CAB6P trees (9 g/fruit at Istrita Station) which also registered a higher value of soluble solids content (15 % at Istrita and 16% in Bucharest) than other combinations. Together with FirmRed/CAB6P and FirmRed/CAB11E, the same GiantRed/CAB6P accumulated more ascorbic acid in fruits. The acidity was much lower at Kordia/PHLC (0,44% malic acid) at Istrita and higher at Van/mahaleb (0,87%) which also recorded the highest value of anthocyanins (7,81 mg/100g) in the second half of june at Moara Domneasca Didactic Farm. GiantRed/CAB6P had only 1,52 mg/100g anthocyanins in fruits but proves to be a very tasty and attractive sweet cherry variety for fresh consumption. Because the performance of all these tested combinations has not been described yet in the Romanian growing conditions, the data presented need to be confirmed by further researches on several years.

**Keywords:** *Prunus avium*, cultivar, biochemical composition, fruit quality

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