



THE BOOK OF ABSTRACTS

V Balkan Symposium on Fruit Growing
June 18-21, 2023
Zagreb, Croatia



**University of Zagreb Faculty of Agriculture
Department of Pomology**



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The Book of Abstracts



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INFLUENCE OF TEMPERATURE AT THE TIME OF POLLINATION ON THE EFFECTIVE POLLINATION PERIOD AND FRUIT SET IN PLUM

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Abstract

So far, the concept of effective pollination period (EPP) for several cultivars of plum, apricot, apple, pear, almond, and others has been proven as a suitable parameter to set up a relationship between the variation in the reproductive process and cropping behaviour. Among a number of autochthonous plum cultivar present in plum orchards in Serbia, 'Crvena Ranka' is the most important. It's a self-sterile cultivar (characterized by the appearance of cytoplasmic male sterility), so the presence of an adequate pollenizer is needed. The fruit set and EPP in this plum cultivar were evaluated under natural field conditions in western Serbia during 2021 and 2022. Pollination of flowers with a mix of dry pollen was subsequently done during the first 10 days after full bloom. The initial and final fruit set was recorded four weeks after pollination and at the period of physiological maturity of the fruit, respectively. Results show that in both years the number of initial fruit set increased up to five days after anthesis. The same was archived with the final fruit set in the first year while in the second, the highest number of fruit sets was observed on the fourth day after anthesis (40.67% and 54.48%, resp.). In the first year, five days after anthesis a slight decrease in the final fruit set was observed with the lowest, but still satisfactory values, on the 10th day after anthesis (11%). In the second year, decreasing in fruit set was more evident and was below 4% on the seventh day after anthesis. The reason for such a significant decrease in fruit set was the spring frost occurred five days in a row. Taking into account clearly the effects of weather conditions on fruit set, based on obtained results, it can be estimated that the EPP for plum cultivar 'Crvena Ranka' is 10 days.

Keywords: *Prunus domestica* L., flowers, anthesis, pollen, fruits