



Faculty of Agriculture  
University of Banja Luka



XIV INTERNATIONAL SYMPOSIUM ON AGRICULTURAL SCIENCES



# BOOK OF ABSTRACTS

26-29 May 2025, Trebinje, Bosnia and Herzegovina

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### **Fruit Weight and Primary Metabolites Content of Plum Fruits as Affected by Planting Density**

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#### **Abstract**

An experiment was conducted to evaluate the effect of different dense planting (4×1 m; 4×2 m and 5×3 m) on the fruit weight and contents of primary metabolites (soluble solids, total sugars, invert sugars, total acids, and pH) in the fruits of eight plum cultivars ('Čačanska Rana', 'Čačanska Lepotica', 'Timočanka', 'Krina', 'Mildora', 'Čačanska Najbolja', 'Čačanska Rodna' and 'Stanley'). During the three-year experimental period, results showed variability in fruit weight and chemical composition between different cultivars and planting densities. The highest fruit weight was recorded at the planting distance of 4×2 m in cultivars 'Čačanska Rana', 'Čačanska Lepotica', 'Krina', 'Mildora' and 'Čačanska Najbolja', while the cultivars 'Timočanka', 'Čačanska Rodna' and Stanley' had the highest value at the standard distance of 5×3 m. Regarding primary metabolites, in all tested cultivars, the accumulation and synthesis of soluble solids and sugars in the fruit increased with increasing planting density, while pH and total acids showed the opposite trend. The present results indicated that different planting densities have an important effect on fruit weight and plant metabolism, promoting the synthesis and accumulation of primary metabolites in the fruits, thus positively affecting the quality and commercial value of the fruit.

*Key words:* plum, planting density, fruit weight, primary metabolites

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