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Abstract Book

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Characterization of sugar content in sweet cherry populations for genetic analyses

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Abstract

Sweet cherry is a temperate fruit highly appreciated by consumers. Most genetic studies on fruit quality have focused on physical parameters like size, colour, or firmness. In contrast, chemical parameters associated with organoleptic quality, like sweetness and acidity, have been less studied. In this work, the sugar content was characterized in individuals from five sweet cherry populations for two years. The segregation and heritability of the different sugars identified were investigated. Fruit samples from each individual tree were evaluated for soluble solids content (SSC), and identification and quantification of the main sugars (glucose, fructose, sorbitol, and sucrose) were performed using UPLC. Sugars and SSC segregation were analysed to test whether they conformed to a normal distribution. In addition, the sugars and SSC correlation between years, and the broad-sense heritability (H^2) in each population were studied. These results will be further used for QTLs mapping of these sugars content variability.