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The influence of Slovenian traditional and modified Spanish style production technology on the sensory quality of table olives from Slovenian Istria

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The influence of Slovenian traditional and modified Spanish style production technology on quality of table olives from Slovenian Istria of two varieties, Istrska belica and Storta, was studied. Traditional processing involves initial debittering in water for 10 days and fermentation in different brine solutions. Sensory assessment of the characteristics of table olives was evaluated after 60 and 180 days of fermentation, according to the official method of the International Olive Council (IOC). Total biophenol content was determined by HPLC analysis. The bitterness, hardness and fibrousness of table olives that were produced using the traditional technology, were more intensive compared to the intensities of samples produced with the modified Spanish style. Statistically significant differences (t-test, α<0.05) in the perceived bitterness, sourness and saltiness were determined. The described characteristics were more intensive in table olives produced using the traditional technology. It was found out that Storta table olives, regardless of production technology, were more fibrous than Istrska belica table olives. The results of sensory assessment showed that the sensory characteristics of table olives that were processed 60 days were more intensive compared to table olives after 180 days of processing. It was found out that the modified Spanish style production technology, which involves initial alkaline treatment, was not suitable for retaining the characteristics of the two local olive varieties. After 180 days of processing table olives were very mellow and the intensities of the sensory attributes were less expressed. Relatively high amount of total biophenols influenced the bitter taste of the produced table olives. The bitter taste of table olives was positively correlated to the amount of total biophenols. Traditional production technology was better for processing the two studied olive varieties and retaining the characteristics of the product. Even after 180 days of fermentation using the traditional process, table olives preserved appropriate sensory characteristics that made them suitable for consumption.

Keywords: table olives, traditional production, modified Spanish style production, biophenols