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# The profile of carotenoids and phenolic compounds in 20 different varieties of pumpkin pulp cultivated in Serbia

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High nutrition value, amount of bioactive compounds and non-demanding cultivation make pumpkin pulp and its products a great and valuable plant food candidate in human nutrition and medical purpose. Pumpkins are characterized by the presence of carotenoids as the most dominant and studied compounds. This plant also contains phenolics that can contribute to biological activity. Consumption of food that is rich in both, carotenoids and phenolics has been correlated with beneficial physiological and immunological effects which results in lower risk of various diseases. In this study, pumpkin pulp derived from 20 different varieties of pumpkins grown at the Institute of Field and Vegetable Crops in Novi Sad, Serbia were analysed for their polyphenol and carotenoid content. These varieties belong to two basic species: *Cucurbita maxima* and *Cucurbita moschata*. Phenolic content of pumpkins was determined by the LC-MS/MS technique. The most present phenols were quinic acid (QA), p-hydroxybenzoic acid (PHBA) and amentoflavone (AF). The highest content of phenolics was found in Mo 29-1 (QA – 28.74 ng/mg; PHBA – 162.39 ng/mg; AF – 40.08 ng/mg), Max 1 (QA – 36.48 ng/mg; PHBA – 23.21 ng/mg; AF – 100.18 ng/mg) and MAX 105 (QA – 33.71 ng/mg; PHBA – 65.18 ng/mg; AF – 57.37 ng/mg). The carotenoid composition was determined by HPLC-DAD technique. In *C. moschata*  $\alpha$ -carotene was the most dominant carotenoid. The highest content of  $\alpha$ -carotene was found in Mo 39 (0.659 mg/g) than  $\beta$ -carotene, lutein and zeaxanthin were dominant carotenoids in Mo 39 (0.499 mg/g), Mo 31 (0.004 mg/g) and Mo 31 (0.004 mg/g), respectively. In *C. maxima*  $\beta$ -carotene was the main carotenoid. The highest content of  $\beta$ -carotene was found in Max 118-2 (0.548 mg/g) and the greatest amount of  $\alpha$ -carotene lutein and zeaxanthin was found in Max 113 (0.014 mg/g), Max 65-1 (0.038 mg/g) and Max 65-1 (0.407 mg/g), respectively. The above results indicate that poorly studied pumpkin pulp is a great source of bioactive compounds can find a significant place in food industry and could have important effect on selection in plant breeding.