

Effect of Heat Treatment on Nutrients, Bioactive Contents and Biological Activities of Red Beet (*Beta Vulgaris L.*)

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Abstract : The cooking method is a key factor influencing the quality of vegetables. In this study, the effect of the most common cooking methods on the nutritional composition, phenolic content, pigment content and antioxidant activities (evaluated by DPPH, ABTS, CUPRAC, FRAP, reducing power and phosphomolybdene method) of fresh, steamed, and boiled red beet was investigated. The fresh samples showed the highest nutritional and bioactive composition compared to the cooked ones. The boiling method didn't lead to a significant reduction ($p < 0.05$) in the content of phenolics, flavonoids, flavanols and DPPH, ABTS, FRAP, CUPRAC, phosphomolybdeneum and reducing power capacities. This effect was less pronounced when steam cooking was used, and the losses of bioactive compounds were lower. As a result, steam cooking resulted in greater retention of bioactive compounds and antioxidant activity compared to boiling. Overall, this study suggests that steam cooking is a better method in terms of retention of pigments and bioactive compounds and antioxidant activity of beetroot.

Keywords : beta vulgaris, cooking methods, bioactive compounds, antioxidant activities

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