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RESEARCH PAPER

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Nutritients, phytochemicals and colour parameters of microwave and steam blanched dried beetroot [*Beta vulgaris* (L.) var. Conditiva] leaves

■ Seyedeh Zeinab Asadi* **and** Mohammad Ali Khan

Department of Post Harvest Engineering and Technology, Aligarh Muslim University, **Aligarh (U.P.) India**

Email : szasadi@yahoo.com; makamu4@gmail.com

*Author for Correspondence

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SUMMARY :

The management and utilization of waste vegetables which are rich in natural nutrients and bioactive compounds as beneficial ingredients are one of the challenges in the food and agricultural sectors. Colour of food products has the first impact on the consumer as a quality indicator to evaluate deterioration due to processing such as blanching, drying etc. The present research was undertaken to assess the comparison of steam blanching pretreatment (STB-P) as a conventional and microwave blanching pretreatment (MWB-P) as a non-conventional method on some nutritional profile, total phenolic content, antioxidant activity and colour parameters of dried BrLs. Results showed an insignificant reduction in some nutrients, *i.e.*, protein, crude fibre, fat, ash, carbohydrate and also antioxidant activity in dried BrLs after STB-P ($p>0.05$), while the highest reduction was observed for protein by comparison with dried BrLs after MWB-P. The STB-P and MWB-P had insignificant influence on some color parameters like b* and Chroma value of dried BrLs. However, there are significant changes on other colour parameters such as the L* value, a* value, hue angle (H_{ab}^{o}), browning index (B.I.) and overall colour difference (ΔE) between dried BrLs after STB-P and MWB-P. Total phenolic content in dried BrLs after STB-P was significantly lower than that in dried BrLs after MWB-P ($P \leq 0.05$). As a result, it was observed that MWB-P for drying of BrLs was not only less energy consuming as compared to STB-P, but also showed better retention of nutrient, phytochemicals and colour parameter.

KEY WORDS : Microwave blanching, Steam blanching, Beetroot leaves, Nutrients, Colour parameters

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