

Impact of post harvest treatment on antioxidant activity and phenolic profile of *Moringa oleifera lam* leaves

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Abstract

Moringa oleifera leaves are an important source of dietary phytochemicals, such as flavonoids with high antioxidant activity (AOA). These components are however influenced by the post-harvest treatments applied as well as the processing conditions. Hence, it is crucial to determine the most appropriate post-harvest treatment that preserves or enhances AOA. To this effect the influence of steam blanching, fermentation / oxidation, oven drying and roasting of fresh *Moringa* leaves on their AOA was investigated. Processing conditions of time and temperature for each treatment were optimised using response surface methodology. The effect of the different treatments at optimal conditions on phenolic profile and AOA were compared. Roasting achieved the most significant ($p < 0.05$) improvement in phenolics (43%) and AOA (22–31%), which was accompanied by the formation of 2 new compounds, quercetin-3-O-acetylglucoside and Quercetine-3-O-rhamnoside. Steam blanching had the most deleterious effect on phenolics (– 31%) and AOA. Post-harvest treatments qualitatively and quantitatively affect phytochemical profile of *Moringa* leaves.