PROCESS DEVELOPMENT AND QUALITY EVALUATION OF DEHYDRATED GREEN PEPPER (*Piper nigrum* L.)

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Dehydration of green pepper is a viable strategy to gain a greater share of the international market for pepper. However, discolouration during processing is a significant drawback that must be eliminated through embodiment methodology. In this study, blanching and the use of anti-browning chemicals were evaluated as pre-drying treatments to prevent discolouration in dehydrated green pepper. The impact of hot-water blanching (100°C for 10 min) and steam blanching (100°C for 10 min) alone and hot-water blanching and steam blanching (100°C for 10 min) followed by soaking in either citric acid (5000 ppm) or sodium metabisulfite (750 ppm) for 2 h was investigated on the subsequent quality of dehydrated green pepper by determining colour measurements (L*, a*, b* values, the total colour difference (ΔE*), browning index), moisture, volatile oil, total ash, acid insoluble ash, bulk density, and residual sulfur dioxide contents. Dehydration was conducted in an air dryer at 55°C for 12 h. The control sample did not undergo any pre-drying treatments and a fresh green pepper sample was used in determining the ΔE*. All the pre-drying treatments positively affected the stabilization of the green colour in dehydrated green pepper. Significant differences ($p<0.05$) were found between the control and all the pretreated samples with respect to a* value, the ΔE*, and the browning index. Evaluated other parameters were not significantly different ($p>0.05$) among treatments. The hot water blanched sample showed the highest a* value of (-17.66±0.03), the lowest ΔE* value of (4.73±0.36), and the lowest browning index (20.14±0.25) that appeared similar to the colour of the fresh green pepper. Results concluded that hot water blanching alone can preserve the green colour of pepper during dehydration.

Keywords: Blanching, Colour, Dehydration, Pre-drying treatments