

Effect of Pretreatment and Drying Method on Selected Quality Parameters of Dried Bell Pepper

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Abstract : Peppers are excellent sources of nutrients but its high moisture content makes it susceptible to spoilage. Drying, a common processing method, results in a reduction of these nutrients in the final product. Pre-treatment of pepper before drying can be used to reduce the level of degradation of nutrients. Thus this study investigated the effect of pre-treatment (hot water blanching and soaking in brine-sodium chloride) and drying methods (oven, microwave and sun) on selected quality parameters (proximate composition, capsaicin, reducing sugar and phenolic content, pH, total solid (TS), Titratable acidity (TA), water absorption capacity (WAC) and colour) of pepper. The protein and moisture content value ranged from 9.09 to 10.23% and 5.63 to 8.48% respectively. Sun dried samples had the highest value while oven dried samples had the lowest. Brine treated samples had higher protein but lower moisture content than blanched samples. Capsaicin, reducing sugar and phenolic content values ranged from 0.68 to 0.87 mg/dm³; 3.18 to 3.79 µg/ml; and 40.67 to 84.01 mg GAE/100 g d.m respectively. The sun dried samples had higher values while the lowest values were from microwave dried samples. The brine treated samples had higher values in capsaicin while the blanched samples had higher reducing sugar and phenolic contents. The values of L, a* and b* for the dried pepper varied from 58.76 to 63.13; 7.09 to 7.34; and 11.79 to 12.36 respectively. Oven dried samples had the lowest values for a*, while its L values were the highest. The L and a* values for brine treated samples were higher than blanched samples. The pre-treatment and drying method considered resulted in different values of the quality parameters considered which indicates that drying and pre-treatment has an effect on the quality of the final dried pepper samples.

Keywords : Bell pepper, microwave drying, oven drying, quality, sun drying

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