

Abstract

Anthocyanin-based aqueous Andean red sweet potato and purple corn extracts were evaluated under different pH, temperature, and light conditions, and compared to commercial colorants (purple carrot, red grape, red 40, and red 3). Red sweet potato and purple carrot colorants, rich in acylated anthocyanins, showed higher stability than purple corn and red grape colorants, rich in non-acylated anthocyanins. After storage at 20 °C for 138 days, the order of stability in the pH range 0.9–4 was: red sweet potato \geq purple carrot > purple corn > red grape. After this storage time, red sweet potato pH 4 extracts maintained a red-violet hue. Half-lives for pH 3 extracts at 98 °C were 4.6, 4.6, 2.4, and 2.0 h for red sweet potato, purple carrot, red grape, and purple corn, respectively. The hues for purple corn pH 3 extracts were similar to those of red 40. Parameters measured included degradation index, polymeric colour, colour retention and spectral data.