Study on Effect of Roselle Extract Addition on Color Stability of Rice Vinegar and Wine

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ABSTRACT

The color changes and stability of rice vinegar and wine after adding roselle extract and raphanus saliousl were investigated at room temperature with outside, inside and UV-ray condition in this research. Color stability of red pigments (OD530) of rice vinegar and wine with 4.0mg/mL roselle extract gradually decreased during the first 14-day storage time, and then became unchangeable, that is, from red to stable rice-brown-yellow. The L-value (lightness) of rice vinegar and wine with roselle extract was lower than that of the origin samples (rice vinegar and wine without any addition) and it gradually increased to a certain value as increasing the storage time, while the b-value, which was higher than that of the origin ones, little gradually increased to a certain value as increasing the storage time. The a-value of the samples with roselle extract first increased and then decreased to that of the origin ones, while the ΔE-value (chroma) increased during the first 7-day storage time and then decreased to become unchangeable. The red color and L, a, b, ΔE values of the samples (rice vinegar and wine with or without the addition of roselle extract) with 0.8mg/mL and 1.6mg/mL raphanus saliousl addition, respectively, were quite stable and much unchangeable during the first 28-day storage time. The L and ΔE values of those samples became lower than those of the origin ones, while the a- and b-values were higher than those of the origin ones. All the values became unchangeable as increasing the storage time. Based on the results, the addition of raphanus saliousl in the samples (rice vinegar and wine) with or without any natural red-pigment addition could improve the color stability of the ones.

Keywords : roselle extract ; raphanus saliousl ; rice vinegar and wine ; color stability

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