EFFECTS OF THE PRESENCE OF SOME SUGARS ON THE DEGRADATION OF ANTHOCYANIN AND ANTIOXIDATION CAPACITY IN MULBERRY JUICE IN HEAT TREATMENT

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Summary

Total anthoxyanin content in mulberry fluid was investigated during the heat treatment period and in different heat treatment regimes to assess the impact of temperature on anthocyanin degradation. Amount of anthocyanin in the mulberry juice without adding sugar descresed over time under heat treatment. These reduction showed a first order reaction as in Arrhenius's law. The antioxidant capacity of mulberry juice changed during the heat treatment. The addition of sugar either glucose, or trehalose or saccharose at 10% into mulberry juice showed protective effect on anthocyanin in mulberry juice, in which, trehalose had a better protection. The antioxidant capacity of mulberry juice decreased when temperature increased. At temperatures below 70°C, the antioxidant capacity of mulberry juice decreased over time, but the high heat treatment (80°C, 90°C) showed a restoration of antioxidant capacity.

Keywords: *Anthocyanin, mulberry, DPPH, FRAP, antioxidant capacity, trehalose.*