

Studies on the storage stability of fermented red dragon fruit (*Hylocereus polyrhizus*) drink

ABSTRACT

The objective of this work was to study the effect of storage temperatures and duration on the stability of fermented red dragon fruit drink (FRDFD) on its betacyanins content, physicochemical and microbiological qualities (BPM) and determining sensory acceptability. Results showed that both storage temperatures and duration have a significant effect on betacyanins content and physicochemical properties of FRDFD. Aerobic mesophilic and yeast and mold counts were lower than 1×10^3 CFU/mL for FRDFD stored at both temperatures. The loss of betanin (16.53–13.93 g/L) at 4 °C was 15.73% with no significant changes in physicochemical properties from week two onwards compared to 56.32% (16.53–7.22 g/L) of betanin loss at 25 °C. At week eight, FRDFD stored at 4 °C still contained 13.93 g/L betanin with a pH value of 3.46, suggested its potential as a functional drink which is sensory acceptable (mean score > 80% using hedonic test) among consumers.

Keyword: Fermentation; Betanin; Betacyanins; Antioxidant; Bioactive phytochemicals