Effects of pasteurization and different concentrations of xanthan gum on honey beverage

ABSTRACT

Development of ready to drink (RTD) beverage containing honey as a natural ingredient to replace sugary (high calorie) beverage using pasteurization is a new emerging market. However, the stability of the beverage may be affected due to sedimentation in the solution thus the addition of xanthan gum to improve the stability was proposed. Therefore, the objective of this study was to evaluate the effects of pasteurization and different concentrations of xanthan gum (0.05% and 0.1%) on the shelf life and physicochemical properties of honey beverages during storage at 25±2°C. The honey beverages were analyzed for total soluble solids (TSS), pH, rheological behavior, total phenolic content (TPC) and total plate count after processing at a specified time interval until the samples were deteriorated. The beverage containing 0.1% of xanthan gum shows significantly ($p<0.05$) higher stability in terms of TSS and total plate count than honey beverages containing 0.05% xanthan gum. Both pasteurized 0.05% and 0.1% xanthan gum enriched honey beverages samples remain acceptable in terms of TSS, pH, TPC and total plate count during 10 weeks of storage. On the contrary, all unpasteurized honey beverages were deteriorated after the first week of storage. Thus, pasteurization and addition of xanthan gum of honey beverages are recommended for longer shelf life at room temperature.

Keyword: Pasteurization; Honey beverages; Xanthan gum; Shelf life; Physiochemical properties