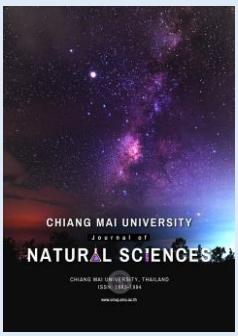

Editor:
Wasu Pathom-aree,
Chiang Mai University, Thailand

Article history:
Received: May 12, 2020;
Revised: July 1, 2020;
Accepted: October 12, 2020;
https://doi.org/10.12982/CMUJNS.2021.034

Corresponding author:
Chukwan Techakanon,
E-mail: *chukwan.t@psu.ac.th*

Research article

The Effects of Pasteurization Conditions and Storage Time on Microbial Safety, Quality and Antioxidant Properties of Cider from Rose Apple (*Syzygium agueum* Alston cv. Taaptimjan)

Chukwan Techakanon* and Karthikeyan Venkatachalam

Faculty of Innovative Agriculture and Fishery Establishment Project, Prince of Songkla University Surat Thani campus, Surat Thani 84000, Thailand

Abstract The aims of this study were to produce rose apple cider and to compare the quality of cider following different pasteurization conditions. Rose apple (*Syzygium agueum* Alston cv. Taaptimjan), which is rich in bioactive compounds, was used to produce cider. Cider pasteurization was carried out at 63 ºC for 15 s, or at 71 ºC for 6 s after fermentation. Cider from each pasteurization condition was stored at room temperature (27±1 ºC). Physicochemical, microbial and sensory properties were monitored for three months in the study. The obtained cider (when not pasteurized) had initially 6% alcohol, with soluble solids in the range 4.2-4.3 ºBrix, pH 4.6, and 4.2 g/L titratable acidity. Pasteurization was effective in prolonging shelf life of the cider from 6 to 12 weeks; however, the treatment significantly decreased contents of vitamin C and antioxidants. In the sensory profile of cider pasteurized at 71 ºC, trained panelists perceived it as more sweet, less sour, with less flavor and same intensity of aftertaste, when compared to the control sample. The pasteurization conditions 71 ºC for 6 s gave desirable sensory quality and met microbiology standards for up to three months of storage in ambient conditions.

Keywords: Antioxidant, Cider, Pasteurization, Quality, Rose apple

Citation: Techakanon, C. and Venkatachalam, K. 2021.The effects of pasteurization conditions and storage time on microbial safety, quality and antioxidant properties of cider from rose apple (*Syzygium agueum* Alston cv. Taaptimjan). CMUJ. Nat. Sci. 20(2): e2021034.