CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Throughout this study, unpasteurised and pasteurised sweet potato haulm juice powder (SPHJP) had a minimum percentage of carbohydrate (39.33 g/100 g dw), protein (35.23 g/100 g dw), fibre (7.72 g/100 g dw), and fat (2.42 g/100 g dw), revealing that the haulm from sweet potato has the potential to be transformed into a sustainable source of nutrients and an innovative plant-based protein. Exposure of SPHJP to pasteurisation has decreased the carbohydrate content and significantly increased the ash content of the haulm powder ($p<0.05$). Pasteurised SPHJP had lower phytic acid amount ($p<0.05$) than the unpasteurised SPHJP. It can be concluded that thermal-treated juice can retain the phenolic compounds and its antioxidant activity greatly under dark conditions for 180 days ($p<0.05$).

Further study on SPHJP materials is recommended to analyse the powder's concentration of mineral compounds, soluble fiber, insoluble dietary fiber, amino acids, antioxidant, anti-nutrient, and hygroscopicity. Assessment of the microbial aspect of the SPHJP should be done to evaluate the efficiency of pasteurisation used to cater food safety issues. Investigation on the storage stability of unpasteurised and pasteurised sweet potato haulm juice powder (SPHJP) at chilled or lower temperature compared to at 20˚C is suggested to determine the best storage condition for SPHJP as a functional food. Profiling of polyphenols in the SPHJP should be conducted to assess the compounds that provide antioxidant activities.

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