
CHAPTER 5 – CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This research successfully established an optimal route for developing a value-added food product from the local edible fern, *Stenochlaena palustris* (Kelakai). Through a comprehensive evaluation, Kelakai sourced from peat soil was identified as the optimal raw material, chosen for its sustainable and reproducible nature as well as its superior nutritional profile. For processing, a minimal pre-treatment involving quenching while skipping soaking and grinding was determined to be the most effective method for preserving the plant's natural metabolites. Finally, hedonic sensory testing confirmed the viability of Kelakai as a sustainable alternative to nori by demonstrating that the final product is highly accepted by panelists. The resulting oven-dried Kelakai Nori Sprinkle was liked moderately by panelists and scored significantly higher than the nori sprinkle without kelakai addition, demonstrating that a desirable and accepted product can be successfully produced.

5.2 Recommendations

Future research should focus on optimizing the more scalable dehydrator-drying process to replicate the superior sensory quality of the oven-dried sample, thereby creating a commercially viable production method. Subsequently, a comprehensive shelf-life study is essential to ensure the long-term quality and stability of the final product. Further innovation could also explore the development and testing of a 100% Kelakai sprinkle to evaluate its unique flavor profile and consumer acceptance as a standalone product.