

CHAPTER V

CONCLUSION AND SUGGESTION

5.2 Conclusion

The utilization of red rice flour in rice noodle (kwetiau) formulation has proven effective in enhancing the nutritional value of the product, particularly by increasing its dietary fiber and mineral content. These improvements are relevant for promoting digestive health, supporting better glycemic management, and providing additional micronutrients such as iron and magnesium. Beyond its nutritional advantages, the product is naturally gluten-free, expanding its potential consumer base to individuals with gluten intolerance or those seeking healthier alternatives to conventional noodles.

Sensory evaluation indicated that red rice noodles were generally acceptable to consumers, despite slight variations in color and texture compared to traditional white rice noodles. This suggests that product development with red rice flour can strike a balance between health benefits and consumer preferences. Importantly, the formulation process is relatively simple and does not require advanced technology, making it highly suitable for adaptation by micro, small, and medium enterprises (UMKM). By incorporating locally available red rice, UMKM can diversify their product portfolios, add value to indigenous agricultural resources, and meet the increasing demand for functional and health-oriented foods in the market.

In conclusion, red rice-based rice noodles represent a promising functional food innovation that combines enhanced nutrition with market potential. Further studies focusing on glycemic response in vivo and consumer acceptance in larger populations are recommended. Strengthening collaborations between academia, UMKM, and local farmers may accelerate the development and commercialization of this product, contributing both to public health and local economic growth.

5.3 Suggestion

Future Research & Product Development for Red Rice Noodles

- Optimize processing (steam blanching, extrusion cooking, low-temp drying) to preserve nutrients and ensure good texture/appearance.
- Fortify with nutrient-dense ingredients (legumes, mushrooms, local vegetables) to boost protein and micronutrient quality.
- Conduct shelf-life studies and adopt eco-friendly packaging; consider **thinwall plastic** for practicality.
- Improve product stability through **drying techniques for kwetiau-style noodles**.
- Validate health benefits via glycemic index testing and small-scale human trials (especially for diabetic/health-conscious consumers).
- Expand market research on consumer preferences, including flavor variations for broader acceptance.
- Strengthen supply chains by integrating local farmers and training UMKM in food safety, standardization, and sustainable sourcing.