

CHAPTER V

CONCLUSION AND SUGGESTION

5.1 Conclusion

The development of the pumpkin protein bar demonstrates the potential of utilizing local, nutrient-dense ingredients such as pumpkin, soy flour, chia seeds, dates, and honey to create a functional and health-oriented snack product. This formulation offers a balanced profile of protein, fiber, and essential micronutrients, making it suitable for health-conscious consumers and individuals with active lifestyles.

Throughout the formulation process, considerations were made not only for nutritional value but also for sensory quality, shelf life, food safety, and packaging. The product achieved acceptable texture, taste, and appearance, while the use of dual-layer packaging ensured extended freshness and microbial protection without the addition of preservatives.

Overall, the pumpkin protein bar is a promising alternative to commercial snack bars, offering clean-label benefits and improved nutritional content. This project highlights the importance of innovation in food product development, especially in meeting the demand for convenient, healthy, and natural snacks.

5.2 Suggestion

Further research is recommended to refine and improve the formulation of the pumpkin protein bar, particularly in enhancing its texture, flavor, and overall consumer acceptance. Optimizing these sensory characteristics is essential to increase competitiveness in the growing healthy snack market. Adjustments to ingredient ratios or the inclusion of complementary natural ingredients may help improve product stability, palatability, and shelf life without relying on synthetic additives.

In addition, further studies on the functional and nutritional roles of pumpkin flour, soy, and chia seeds can provide valuable insight into their benefits in snack food applications. Exploring alternative baking conditions or

processing techniques could also contribute to product enhancement. From a cost efficiency perspective, sourcing ingredients in bulk such as purchasing egg whites by the kilogram or other raw materials through wholesale suppliers can significantly reduce production expenses while maintaining product quality.

Another advantage of the pumpkin protein bar is that it offers both nutritional value and affordability. The combination of high protein, fiber, and essential minerals makes it a functional snack, while the potential for lower production costs ensures that it can be positioned competitively in health snack market. These continuous improvements will support the development of preservative free, nutritious, and cost effective snack options, promoting wider adoption of the pumpkin protein bar among health conscious consumers.