

CHAPTER V

CONCLUSION AND SUGGESTION

5.1 Conclusion

The development of a snack bar product based on fermented tempeh from a mixture of soybeans, peanuts and mung beans has been successfully carried out by considering aspects of nutrition, food safety, production processes, as well as packaging and selling prices. Tempeh as the main ingredient was chosen due to its high content of vegetable protein, the functional properties of fermentation, and its ability to provide a balanced nutritional profile. The formulation results produced one snack bar weighing ± 40 grams with energy content of 141.5 kcal, protein 5.14 g, fat 5.02 g, carbohydrate 19.29 g, dietary fiber 2.31 g, sugar 6.42 g, sodium 16.86 mg, potassium 184.56 mg, and folate 12.53 μg . These nutritional values reflect the balanced composition of the raw materials between protein, healthy fats, and fiber. In terms of production, the optimal baking temperature is at 175°C for 15-20 minutes to maintain the crispy texture and ensure the microbiological safety of the product. The product is packaged using alu-foil + PE + litho paper-based laminated plastic, which serves to maintain quality, extend shelf life, and provide a professional appearance. the estimated shelf life of this product is 2-3 weeks at room temperature, and a maximum of 1 month in cold storage ($\pm 4^{\circ}\text{C}$). In terms of economics, the total cost per bar reaches Rp4,699.62 including raw materials, packaging, and additional costs (10%). With a 60% markup margin, the selling price of the product was set at IDR8,000/bar, which is considered competitive for the high-protein healthy food segment.

5.2 Suggestion

To increase product shelf life, the use of vacuum packaging technology or the addition of plant-based natural preservatives is recommended. Long-term microbiological and sensory quality tests should also be conducted to validate shelf life and food safety. Furthermore, it is necessary to conduct market tests

on a small scale to measure consumer acceptance of product taste, texture and packaging. The development of flavor variants and low-sugar formulations can also be a further innovation so that the product can reach a wider market segment.