

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Snapper fish roe as a main ingredient for high-protein chips offers a unique blend of nutritional benefits and culinary innovation. Snapper fish roe is rich in high-quality protein, omega-3 fatty acids, and essential vitamins, making it an excellent choice for health-conscious consumers seeking nutritious snack options (Klomkau, 2015). Utilizing snapper fish roe aligns with sustainable seafood practices, as it promotes the use of all parts of the fish, reducing waste and supporting responsible fishing practices (Anderson, 2007). Snapper fish roe is an excellent source of protein, consisting approximately 32 grams of protein per 100 grams in its raw form (Rahman et al., 2022). After cooking, it retains around 30 grams of protein, making it an ideal choice for creating high-protein snacks (Rahman et al., 2022). This nutritional profile not only supports our objective of making protein-rich snacks but also provides a flavorful option for incorporating essential nutrients into our diet.

Transforming snapper fish roe into chips offers several compelling advantages over other food products. Chips are universally loved for their convenience, portability, and broad appeal across various age groups and demographics (Tajner-Czopek, 2021). By converting snapper fish roe into chips, manufacturers can tap into the massive snack market, making the nutritional benefits of fish roe accessible to a wider audience who might not otherwise consider it part of their regular diet (Hayes, 2021). Additionally, the crunchy texture of chips provides an appealing contrast to the savory, umami-rich taste of the roe, creating a satisfying snacking experience that stands out from traditional options. This combination of texture and flavor can attract food enthusiasts looking for novel and

gourmet snack options, helping to position the product as a premium offering. Furthermore, chips offer a convenient way to deliver a concentrated source of high-quality protein, omega-3 fatty acids, vitamins, and minerals (Thiessen, 2017). Unlike other forms of food, chips are easy to portion and consume on the go, making them an ideal vehicle for delivering the health benefits of snapper fish roe to a modern, busy lifestyle.

Baking fish roe chips is preferred for its health benefits, as it requires less oil than frying, preserving the roe's natural nutrients (Cieurzyńska, 2020). Baking at moderate temperatures also ensures a crispy texture without compromising on flavor, allowing the roe's natural umami notes to shine through while achieving a satisfying crunch.

1.2 Objectives of the Study

The objectives of this study are following below:

1. Developing a high-protein fish roe chips as a novel food product, utilizing fish roe that is often discarded due to underutilization in culinary practices.
2. Conduct a comprehensive nutritional analysis of the high-protein fish roe chips to quantify their protein content, amino acid profile, omega-3, as well as the minerals.
3. Investigate market opportunities and consumer perceptions regarding high-protein fish roe chips. By understanding consumer preferences, dietary trends, and willingness to purchase, the study aims to assess the commercial viability of the product and identify potential target markets and distribution channels.