

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Waste management is a significant concern in the food industry, particularly in pursuing sustainability. The poultry industry, including duck farming, generates substantial waste annually. As noted, the poultry industry worldwide produces over 40 million metric tons of poultry meat and 600 billion eggs each year, which results in significant quantities of waste by-products, such as bedding material, feathers, and manure (Williams et al., 1999). If not managed properly, these by-products can contribute to significant environmental issues. According to Williams et al. (1999), "the disposal of poultry wastes has long been recognized as a potential detriment to the environment under certain environmental conditions or poor management practices". This highlights the necessity for more sustainable approaches to utilize poultry by-products and mitigate adverse environmental impacts.

One part of the duck that is often discarded is the "parson's nose" or "*brutu*". The underutilization of such parts represents a lost opportunity for creating valuable products. Mozhiarasi and Natarajan (2022) state, "The wastes produced from the slaughterhouse and poultry industry are in huge quantities, which could be a promising resource for the recovery of value-added products". Furthermore, it is reported that about one-third to one-half of the total weight of slaughtered poultry remains as unutilized or partly utilized by-products. This insight underscores the potential to utilize duck tails as a valuable ingredient rather than allowing them to go to waste.

In this context, the proposed solution is to develop Thai Green Curry Seasoned Salt using duck tail as a primary ingredient. Mengqi et al. (2023) emphasized that "timely and effective treatment is of utmost importance to utilize organic matter in agricultural waste and avoid environmental pollution".

The ducktail can be processed into a paste, which is then dried and used as a base in the seasoning, helping to reduce food waste while creating a product with a rich umami flavour.

Seasoned salt is popular due to its versatility and convenience. Rodrigues et al. (2024) note, "Seasoned salt is a mixture of salt with various additional ingredients such as spices or herbs, aimed at enhancing the flavour of a dish quickly and conveniently". Products like garlic salt, onion salt, and lemon pepper salt are widely used to improve the flavour with minimal preparation. The popularity of such products is linked to their ability to "enhance flavour instantly without additional preparation" (Mengqi et al., 2023).

The proposed Thai Green Curry Seasoned Salt differentiates itself using a complex combination of Thai spices and duck tails. As stated by Williams et al. (1999), "Characterizing poultry production by-products as resources, as opposed to a waste, has been the focus of much discussion". Including duck tail exemplifies this shift from viewing certain poultry parts as waste to recognizing their potential economic and culinary value. Duck tails, when used in products like seasoned salt, not only reduce waste but also add a unique and rich flavour, thereby enhancing the culinary value of the product.

By combining these components—duck tail, Thai Green Curry, and seasoned salt—the product offers a comprehensive solution that not only enhances consumer convenience but also addresses food waste reduction. As Mengqi et al. (2023) mention, "the subsequent processing of poultry products results in large quantities of offal, processing wastewaters, and biosolids". The use of duck tail in a value-added product directly contributes to minimizing the impact of such by-products, thus reducing the environmental burden and providing a sustainable option in the seasoned salt market.

1.2 Objectives of the Study

The primary objective of this study is to develop and evaluate Thai Green Curry Seasoned Salt. Specific objectives include:

1. To reduce food waste by incorporating duck tails, which are typically discarded, into the production of Thai Green Curry Seasoned Salt.
2. To create a new seasoning product that utilizes duck parts, specifically the tails, which are often underused in the poultry industry.
3. To promote sustainability by effectively repurposing poultry by-products, reducing their negative impact on the environment.