CHAPTER I
INTRODUCTION

1.1 Background of the Study

A primary protein source around the world, pork is highly desirable for its nutritional profile, adaptability, and flavor, softness, and juiciness. The meat industry must prioritize sensory quality since it is crucial to consumer approval and decisions to make more purchases (Miller, 2020). Inconsistent sensory sensations, however, might result from differences in pork quality caused by variables such muscle type, processing procedures, and cooking techniques (Lebret & Čandek-Potokar, 2022). In order to improve the meat's sensory qualities, novel processing methods such as the meltique process have been developed. In this research, researcher used sirloin pork to be processed using the meltique process.

Meltique is the process of injecting fat into certain cuts of meat using a special tool. This process aims to create a softer texture, improve the quality of the meat and produce a marbling pattern resembling wagyu beef. This technique is usually used in beef, but in this research, researcher tried to do it in pork meat.

Pork is injected with edible fats or oils during the meltique process that imitate intramuscular fat and improve flavor, juiciness, and tenderness. This method, which was first created for cows, is being used progressively more for pig, which frequently doesn't have enough natural marbling (Pateiro et al., 2022). Because of its emulsifying, water-binding, and texture-enhancing qualities, isolated soy protein (ISP), a high-purity protein made from soybeans, is frequently added to the injection matrix (Zhang et al., 2021). Isolated soy protein (ISP) improves the meat's sensory qualities and consistency by stabilizing the fat emulsion and guaranteeing even distribution throughout the flesh (Hwang et al., 2021). This study looks into how isolated soy protein (ISP) can help improve the pork meltique process.

This study investigates the application of the meltique process with isolated soy protein (ISP) in pork, focusing on fat type, isolated soy protein (ISP) concentration, injection techniques, and muscle type to enhance sensory quality. By leveraging sensory evaluation and building on existing literature, the research aims to develop practical guidelines for implementing the meltique process in pork production. The findings are expected to contribute to academic knowledge and provide actionable insights for the meat industry, enabling the production of pork products that deliver superior sensory experiences and strengthen market competitiveness.

1.2 Objective of the Study

1. To evaluate the sensory qualities (taste, texture, aroma, appearance, and overall acceptability) of the meltique pork through organoleptic. Testing with selected panelists.
2. To evaluate the nutritional composition of meltique pork including macronutrients such as carbohydrates, protein, fat, fiber, and moisture content.
3. To show the market that local pork can be as good as the imported pork meat.