

CHAPTER I

INTRODUCTION

1.1 Background

During the early 1700s, European settlers reintroduced tomatoes to the Americas. Initially, it was mainly cultivated as a decorative plant in the northern colonies, while in the southern regions, it was cultivated for its edible fruit. Over time, its popularity grew steadily (Benoit, 2023).

The relatively high levels of glutamic acid in tomatoes contribute to why it was popular in the southern region. Glutamic acid is an α -amino acid that is used by almost all living beings in the biosynthesis of proteins. The free glutamic acid concentration found in tomatoes increases steadily during fruit ripening, representing the most abundant amino acid in red tomato fruits. While Gamma-Aminobutyric Acid (GABA) is the most abundant glutamic acid in green tomato fruits, its concentrations decrease substantially during ripening (de Bie et al., 2023). Umami, sourced from glutamic acid, is regarded as a taste sensation and indicates valuable amino acids or oligopeptides present in foods. Umami typically enhances the overall flavor profile of food by modulating sweetness, intensifying saltiness, and mitigating sourness and bitterness. Despite the identification of umami receptors, accurately assessing its intensity remains challenging due to its complex taste attributes within the intricate matrix of food (Wang et al., 2020).

Extracting the said substance of tomatoes can be achieved to flavor and fortify oils by blending the source of GABA with neutral oil. These practices enhance the oils' sensory attributes and chemical composition, enriching them with bioactive compounds (Lamas et al., 2022). While the desire to cater to another similar product like chili oil is the current mainstream way, Umami Oil offers an alternative to a new and non-spicy umami-centered oil product that does not contain capsicum nor additional monosodium glutamate.

1.2 Objectives of the Study

This study has the following objectives:

1. To create a new trend and innovation within the culinary industry acknowledging that the utilization of focusing umami in making flavored oil is relatively minimal.
2. To find the effectiveness of extracting the umami factor and natural color pigments in tomatoes by frying sliced ingredients and comparing them with a blended mixture of the ingredients.