

CHAPTER I

INTRODUCTION

1.1 Background of the Study

The use of functional foods with added health advantages has increased in tandem with rising public awareness of healthy lifestyles. One effort to promote this trend is the development of food products that not only meet basic nutritional requirements but also have beneficial physiological benefits, such as antioxidant activity.

In Southeast Asia and Indonesia, kwetiau, a kind of flat noodle, is very common. White rice flour, which is low in fiber and has comparatively low antioxidant levels, is usually used to make it. In order to improve the nutritional and functional value of kwetiau, it is therefore possible to alter the raw ingredients. A nutrient-dense food, red rice flour is high in dietary fiber, B-complex vitamins, and bioactive substances such as anthocyanins and phenolics, which are recognized for their antioxidant qualities.

Furthermore, red amaranth (*Amaranthus tricolor L.*) is a possible natural source of antioxidants in food due to its high anthocyanin content, particularly in its leaves. When red amaranth puree is included in kwetiau formulation, it can increase the antioxidant content of the product and give it a unique color and texture. A functional food product with enhanced nutritional content, antioxidant activity, and consumer appeal is anticipated when red rice flour and red amaranth puree are combined in the creation of kwetiau. The purpose of this study is to assess how well these two substances can be combined to create a novel, wholesome, and health-promoting kwetiau product.

1.2 Objectives of the Study

The objectives of this study are following below:

1. To formulate a functional kwetiau product utilizing red rice flour and red amaranth (*Amaranthus tricolor L.*) puree as primary ingredients to enhance its nutritional profile and antioxidant capacity.
2. To analyze the physicochemical properties, antioxidant activity, and sensory acceptability of the developed kwetiau formulations.