# CHAPTER I

# INTRODUCTION

## 1.1 Background of the Study

Noodles are one of the staple foods in the world, especially in many Asian countries (Al-Baarri et al., 2019). The noodle industry provides 95.4 billion servings of instant noodles to consumers annually, and demand is increasing as instant noodles are now a popular food in more than 80 countries (Gulia et al., 2014). According to the world instant noodle association (WINA, 2022), China ranks first in the world for noodle consumption, followed by Indonesia, Vietnam, India, and Japan. Instant noodle consumption in Indonesia in 2021, the consumption of instant noodles in Indonesia has reached 13,270 million servings, this number is higher compared to the 2019 and 2020 (WINA, 2022). The amount of instant noodle production is affecting the wheat needs, as Indonesia is completely dependent on import for wheat. While Indonesia has been unable to produce wheat flour, the high consumption of wheat flour as the primary ingredient in making noodles continues to rise every year (Sinaga et al., 2019). By increasing the production and consumption of local food ingredients, it is possible to reduce the heavy reliance on rice and flour, whose consumption has reached 139 kg/capita/year and 17 kg/capita/year (Basrin et al., 2021). One of the local food ingredients that can be used is purple sweet potato.

Purple sweet potato *(Ipomoea batatas L.*), is a type of sweet potato that widely cultivated in many countries. Since being introduced from South America in the early 18th century, sweet potatoes (*Ipomoea batatas L.*) are widely grown in tropical and subtropical regions and currently one of the most significant root crops in agricultural production and a significant raw supply in the food industry due to its enrichment in starch, crude protein, dietary fibers, minerals, pigments, and polyphenols (C. Chen et al., 2019). Following wheat, rice, maize, potato, barley, and cassava, sweet potatoes are

among the top seven most important crops in the world (Kurnianingsih et al., 2019). Purple sweet potato also can be harvested throughout the year (Kurnianingsih et al., 2020). Purple sweet potato is very well-known due to the abundance of anthocyanins, a natural pigment with numerous physiological benefits (Ning et al., 2021).

Miana, also known as *Coleus blumei, Plectranthus scutellarioides, Ocimum scutellarioides,* or *Solenostemon scutellarioides,* is one of the flowering plant species that is native to South East Asia and its surrounding areas. The Coleus genus contains more than 500 species. Plants need moist-drained soil to grow and typically grow 0.5–1 m, though some may grow as tall as 2 meters (Yanto et al., 2020). The red, purple, and blue pigments on plants are produced by anthocyanins, a secondary metabolite derivative of flavonoids., because of this and the purplish red color of its leaves, miana leaves is thought to have a lot of anthocyanin (Ayu et al., 2020; Puspita et al., 2018). The addition of miana leaves is expected to be able to maintain anthocyanin in the purple sweet potato noodle. This addition is needed so this product can meet the daily anthocyanin needs, which are 19.8-64.9 mg for women and 18.4-44.1 mg for men.

## 1.2 Objectives of the Study

The objectives of this study are following below:

1. In order to follow the global trend and due to increasing demand on gluten free and healthy foods, the study aims to create gluten free and high antioxidant noodle from local resources, which are purple sweet potato and miana leaves.
2. To identify the acceptance of gluten free and high antioxidant noodle from purple sweet potato with the addition of miana leaves.