

CHAPTER I

INTRODUCTION

A. BACKGROUND STUDY

Pineapple, scientifically known as *Ananas comosus*, is a tropical plant with and edible fruit that are rich in vitamins, enzymes and antioxidants. They help boost the immune system, strengthen bones and aid indigestions. Pineapples are the most economically significant plant in the family of *Bromeliaceae* and are the only bromeliad that produces edible fruit, according to the Purdue University Center for New Crops and Plant Products (Szalay, 2019).

Pineapple has been cultivated in Brazil and Paraguay in South America for many centuries. It was introduced to Europe in the 17th century and was labeled as significant cultural of luxury. In 1820s, pineapples have commercially grown in greenhouse and tropical plantations. Hawaii was a dominant producer of pineapple, especially for the US in the 20th century. Today, Hawaii produces only 10% from 27.9 million tonnes of the world's pineapple crops, led by Costa Rica, Philippines, Brazil, and Thailand (Filippone, 2020).

Table 1. Pineapple Production in 2018

Country	(millions of tonnes)
Costa Rica	3.4
Philippines	2.7
Brazil	2.6
Thailand	2.1
Indonesia	1.8
India	1.7
World	27.9

Pineapple is a perennial or biennial herb with a height of 50-150 cm tall. It has sword-shaped leaves up to 1 m or more with a width of 5-8 cm. These leaves are arranged in a close spiral, clasping the main axis at their base. The fruit itself is cylindrical, about 20 cm long and 14 cm in diameter, weighing 1-2.5 kg, it is surmounted by a rosette of short, stiff, spirally arranged leaves, called the 'crown'

and it is seedless (CABI, 2019). It takes about two years for the plant to produce a single pineapple fruit with its bright yellow, fibrous flesh (Filippone, 2020).

The leaves of pineapple plants are not considered poisonous. While the entire fruit is considered non-toxic, the unripe flesh, thorn and leaves might have toxic effects due to the enzyme bromelain. This enzyme is used as a meat tenderizer and considered very low in toxicity. It can cause slight swelling and tenderness in and around the mouth. The leaves that contains sap also may irritate the skin (Anonymous, 2018). However, the leaves' benefits outweigh its negative effects as it is rich in vitamins, the leaves contain calcium oxalate, bromelain enzyme, pectic substantial, fiber, cellulose, and pentose (Franchochuks, 2019).

It can be concluded that consuming a proper amount of pineapple leaf tea grants ample benefits for health. It eliminates and lowers several diseases commonly found in people and also maintains the health of several organs of the body (Franchochuks, 2019). The benefits include:

- Cure for asthma disease
- Heals bleeding from nose
- Cures flu
- Treats inflammation of throat
- Prevent tuberculosis
- Cures dysentery and diarrhea
- Energy booster
- Cures vomiting and nausea
- Helps in smooth digestion
- Boost immunity
- Control diabetes
- Improves bone health
- Prevents cancer (Anonymous, 2018)

B. STUDY OBJECTIVES

The writer is trying to innovate a new product with utilizing pineapple waste, which is the pineapple leaves, as a consumable beverage in a form of tea. In the making pineapple leaf tea, the writer hopes this product can also bring benefits to the environment by minimizing food waste. This is inspired by a data collected by Economist Intelligence Unit where it states that Indonesia is the world's second largest food waster, binning almost 300 kg of food per person each year. Around 13 million tonnes of food are wasted every year - this food could feed roughly 28 million people (Lemos, 2019).

After a few weeks of trials and errors, researching on the processing method and packaging, the writer has succeeded in creating dried pineapple leaves to be a good aromatic for tea. With the success of making the product, the writer has made a strategic objective and specific objectives for the product. In a strategic objective, the writer hopes this product can raise the purchase value of pineapple leaves that were considered food waste. For the specific objectives, the writer wants to bring a new product of tea to the market competition, where consumers will be more open to purchase and consume processed food waste in their daily lives. Also, the writer expects to grant people a work opportunity by opening work fields, which can reduce the unemployment rate in Indonesia.

C. STUDY BENEFITS

Benefits in the Research and Development project includes:

1. For writer:

- The writer learned and obtain new knowledge about the origin and the process to make tea.
- The writer learned about the benefits in pineapple leaves and how to properly use it.

2. For reader:

- Readers will understand how to make a tea with limited budget and simple methods.

- Readers will have this research as a reference for their upcoming thesis as well a source reference for a pineapple leaf tea.
- Readers will be inspired to create products by utilizing food waste as an innovative product.

3. For Ottimmo:

- Ottimmo will have a source reference that can be applied as a lesson material.
- Ottimmo can modify the product that can be further developed or recreate in making a new type of dish.