

CHAPTER I

INTRODUCTION

1.1 Background of the Study

A complete nutrition will provide us better nutrition so we are able to be a stronger and healthier person. The impact of consuming good nutrition may give us strength to do our daily live efficiently. This product's main character is purple yam and sweet potatoes. Overall final appearance of this product is similar to a Baby Porridge. The texture are soft and creamy while the flavor are sweet.

One of the main purpose of this product is to show us a healthy instant meal which is pretty simple to serve that only needs a hot water. Very easy to use and no need a lot of time to make. Although this is a instant meal but this meal are not considered as a junk or unhealthy food because the progress are strict and not have any food preservative so this product's nutrition almost the same with the real food.

Yams (*Dioscorea Spp*) are sources of essential carbohydrates in various regions of the world, holding cultural and economic importance, particularly in West Africa (Arnau et al., 2010)

Not only the color that eye-catching and interesting to watch compared to the other yams and potatoes product. The reason why purple yam are chosen to be the main ingredients in this product is because this type of yam (*Dioscorea Alata*) are having a better and higher soluble protein compared to the others type of yams and potatoes even though the carbohydrate content are lower than the others yams and potatoes (Shan Nan et al.,2023)

Yam is a starch-rich dietary staple food that contains a combination of vitamins (vitamin C and carotenoids), proteins, essential amino acids (arginine, leucine, isoleucine, and valine), minerals and bioactive substances (phenols, flavonoids, saponins, anthocyanins, allantoin, and water-soluble polysaccharides) [1–5]. Moreover, it has a low glycemic index and is widely

cultivated worldwide (P.H. Huang et al.,2024) In particular, this purple yam (*Dioscorea Alata*) have higher nutrient content than others *Dioscorea* species.

In particular, the tubers of *Dioscorea alata* have higher nutrient contents than those of other *Dioscorea* species (P. H. Huang et al.,2024) and according by many nutritionist said that consumes yams could helps the digestion system, improve the immunity strength and helps to avoid the cardiovascular disease. (Zhang Ding et al.,2023)

Secondary main carbohydrate that used for this product is Purple Sweet Potato. This ingredients are promised as a excellent complex carbohydrate source considering that this ingredients having a B-Carotene and anthocyanin inside. Also, the high level of those both Anthocyanin and B-Carotene combined with high stability at the color extract make it promised as a healthier natural food coloring (Adelia 2007).

Not only that, the existance of this Purple Sweet Potato are also as a additional natural sweetness for the product since their sucrose and sugar content are higher than Purple Yam.

The main method that applied while making this product from raw until it's ready to publish is by using the dehydrating method. Using a food dehydrator machine that allow to dehydrated food with only low temperature. Since a long time ago, food dehydrating are promised as a method that able to dehydrating food without damaging it's quality. It is also possible to decrease the water content of the food (Singh et al.,2012) In addition, it is argued to be more energy-efficient industrial unit operation compared to convective drying (Bajgaj et al.,2006) There are so many advantages from this method such as saving more gas energy and reduce the amount of food waste (Muhammad Juber et al.,2022)

Dehydrating food gives effect to the ingredients such as create the resistant starch. Resistant starch is a type of starch that can be fully or partially fermented by microbiota in the colon but cannot be broken down by human digestive enzymes, especially amylases in the small intestine. Bread and cookies are examples of foods high in carbohydrates. When there are a food

contain a resistant starch, it will improve its quality such as the taste getting better, the texture softer and even the appearance (Ilknur Ucak et al.,2023)

The drying method are often can found in the industrial because this process helps to preserve the ingredients and not only that, the another function is also able to improve its nutrition from each ingredients that already dried properly (Ilknur Ucak et al.,2023)

Drying is a crucial method of food preservation that lowers the moisture content of food to stop it from rotting, create new products, and cut waste. Due to its adaptability, affordability, reasonable control, and ease of equipment, hot air drying accounts for more than 85% of food drying processes

So, we can conclude that this drying method are best and most suitable for this product to keep its quality and nutrition without reducing the taste quality. This product are very suitable for those who wants to gain more complex nutrition with its simplicity to serve. Also, consumers can experience the new way and innovation to enjoy a brand new instant meal. A perfect combination between Purple Yam and Purple Sweet Potato in this product possibly to present a better instant meal.

1.2 Objective of the Study

1. Improve the welfare of all human in this world by supply a better daily nutrition without worrying us from waste a lot of money
2. Bring the public to understand the importance of getting a better nutrition.
3. Make a new variation of healthy instant food especially in Indonesia which most of the instant food are noodles and porridge.