



INVICTUS TECHNOLOGY ENTERPRISE

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1.0 EXECUTIVE SUMMARY

The raising of health disease among young people is very concerning. Diseases such as hypertension, cardiovascular and kidney disease often attack not only the elderly but also the youth due to the increasing development of canned food products, instant food and also ready-to-eat food. These types of food mainly consist of high sodium contents which is one of the chemical components of salt. Salt can be obtained from seawater and also from hills. Although there are already various types of salt that have been introduced in the markets, our company, Invictus Technology Enterprise has arised a product of salt from natural sources in hope to alter the people's unhealthy lifestyle.

Our company used the idea of plant-derived products which are defined as the reducing usage of animal-based products and replacing them with plant-based ingredients. Our company also came up with a salt product namely Nipah salt which is a new product development (NPD) that fulfils the demand of the food manufacturing industry and also vegetarian people. Plant-based salt is a new enhancement from the salt available in the market that could help to reduce the attack of harmful diseases towards people. Nipah salt is a product of low sodium content derived from nipah trees that are native to the coastlines and estuarine habitats of the Indian and Pacific Oceans.

A survey has been conducted by our team members via Google Form and has been distributed to the respondents to gain data on their awareness on Nipah salt and daily usage of the salt. From the data we obtained, 85.7% of respondents were not aware of plant-based salts which explained that the respondents are not familiar with the better choice of salt that can be produced from plants while 83.3% of respondents used around two tablespoons per cooking serving meaning that mostly people consume high salt intake in their lifestyles. Therefore, through the feedback from our respondents, our products and services will keep improving in order to fulfil customers' needs and also to ensure the quality of our products.

2.0 INTRODUCTION

The food industries have recently been paying greater attention to plant-derived materials because of their advantages over animal counterparts. These advantages include a lower risk of infection and contamination, less restrictions on eating habits due to culture and religion, the ability to target vegetarian consumers, as well as their affordability and versatility. The greater sustainability of plant-based materials from an agricultural and environmental perspective is another noteworthy benefit (Nasrabadi et.al, 2021). The term plant-based can be interpreted as a trend of avoiding or reducing animal-based products and substitute by the plant-based alternatives instead (Aschemann-Witzel et.al, 2021). According to Aschemann-Witzel, Gantriis, Fraga and Perez-Cueto, based on research by Osfelt, a plant-based diet composed of processed fruits, vegetables, whole grain, legumes, nuts, seeds, herbs, and spices and completely eliminate all animal products, including red meat, poultry, fish, eggs, and dairy products.

Apparently, most researchers or food technologists are focusing more on producing plant-based meat, protein and dairy products as other alternatives in order to reduce the use of animal-based materials. However, there is another finding regarding the substitution of chemical salt to plant-based salt. Plant-derived salt can be developed from palm tree species known as nipah or *nypa fruticans*. According to research conducted by Ulyarti, Nazarudin and Sari (2017), *nypa* can be found in brackish water swamps along tidal rivers in tropical rain forests as it is native to South and Southeast Asia. Moreover, this palm tree has been declared by the Food and Agriculture Organization as a non-threatened palm in Southeast Asia and accessible to be utilised. Each part of the has a variety of functions and has been utilised such as its leaves can be used for thatching or roofing, its sap is used in production of sugar and its fruits have become a biomass resource for biofuel and chemical inly the frond of the tree has not been put to use yet (Ulyarti et.al, 2017). The frond has been used by the old generation to produce salt traditionally.

2.1 Problem Statements

Salt is the most common food seasoning, frequently used by the housewife, chef and specially those who work in the manufacturing industry. Salt is composed of a chemical compound namely sodium chloride (NaCl) with a ratio of 40% of sodium and 60% of chloride , not only utilised as food flavouring but on the other hand acts as a preservative substance in the food

industry. Sodium is an essential nutrient needed in our bodies to regulate extracellular fluid and transferring of molecules around the cell membrane. However, high intakes of sodium will be associated with the risk of cardiovascular and kidney disease, hypertension and gastric cancer. Moreover, with the increase of production of processed and instant food which is mainly rich in sodium may cause the mentioned diseases to be suffered by young people. Hence, to restrain the intake of salt with high sodium content, Invictus Technology Enterprise invented a healthier choice of salt for the consumers. Derived from plants called Nipah palm or scientifically known as *Nypa fruticans*, produce salt with low sodium content also appearing in greyish colour will attract the interest of consumers who want to have a healthy eating lifestyle.

2.2 Methodology

The data collection regarding our product has been done by our company via a variety of methods to obtain feedback for improvement. Among them is:

1. Surveys

The survey method is important to ensure the respondents acknowledge the existence of other alternatives for salt. Moreover, it is also an essential method to obtain the usage of salt in their daily life. The method is conducted through an online platform by Google Forms then distributed via social media to let people answer the survey.

2. Research

Research has been done by our team members and the outcome of our findings are the area that is rich in nipa palm trees to facilitate supply matters, technology used during the production, the appearance and flavour of the salt compared to chemical salt and the suitable packaging to prolong the shelf life of the salt. Lastly, the responses from the respondents from the conducted survey will be analysed to solve any issues and improve our product quality from the suggestions or comments by respondents.

3. Observation

An observation has been made by our company based on the dilemma faced by customers to choose the better option for the beneficial products for their health since there are a variety