

CHAPTER I INTRODUCTION

A. Background of the Research

Waste is a public problem that must be coped in this country. As we have known that Indonesia has large amount of citizens. They can produce many kind of waste every day, and cause to increase the volume of waste, both organic and inorganic. It is appropriate to the statement of Putungsewu Wildlife Education Center.

“Indonesia is a country with a population of up to 225 million produces both organic and inorganic waste every day, almost the same amount for the two kind of waste. The main problem is public awareness and poor waste management. The amount of waste produced each day in Indonesia reaches 11.330 tons per day and estimated to be 4.0788 million tons per year for the whole country.¹”

From statement above, waste management is very much needed to decrease amount of waste. We can separate between potential and non-potential waste. Potential waste may be processed to be useful product of higher value as by-product, but non-potential waste can be conditioned in the collecting area in order to be loosed.

Many industries in Indonesia that produce large volumes of wastes, one of them is food industry. Food industry produces large volumes of wastes, both solids and liquid, resulting from the production, preparation and consumption of food. These wastes pose increasing disposal and potential severe pollution problems and represent a loss of valuable biomass and nutrients. Beside their pollution and hazardous aspects, in many cases, food processing wastes might have a potential for conversion into useful products of higher value as by-product, or even as raw material for other industries, or for using as food or feed after biological treatment.²

¹ Anonim, <http://www.p-wec.org/en/go-green/stop-littering-habit>, accessed on January, 14th 2013

² Anonim, “food waste” in <http://www.unido.org.pdf>, accessed on January, 14th 2013

Like in processing pineapple, pineapple is an important food which can be eaten fresh or in a processed form. It is composed of nutrients which are good for human health. “This is due to researches carried out on the relationship between nutrients in pineapple and human health. Processing pineapple in industries can leave a lot of waste which can cause serious environmental problems.”³

In our country pineapple can be processed to be many kind of foods like cake, jelly and can be processed to be variety beverages too. Mostly of producer is usually just use flesh of pineapple and throw away it’s peel. Pineapple is largely consumed around the world as canned pineapple slices, chunk and dice, pineapple juice, fruit salads, sugar syrup, alcohol, citric acid, pineapple chips and pineapple puree. It is also exported to other countries as a fresh product. Sixty percent of fresh pineapple is edible.⁴

Whereas peel of pineapple can be used as a meat tenderizer because in the pineapple, both in flesh and peel contain Bromelain enzyme to increase meat quality. “In the peel of pineapple contain for about 0.050-0.075 % enzyme bromelain (Eni Fajrin, Thesis 2012).”



³ May Pitakere, <http://foodscience.wikispaces.com/Pineapple>, accessed on January, 14th 2013

⁴ May Pitakere, <http://foodscience.wikispaces.com/Pineapple>, accessed on January, 14th 2013

*“men who celebrate the praises of Allah, standing, sitting, and lying down on their sides, and contemplate the (wonders of) creation In the heavens and the earth, (with the thought): "Our Lord! not for naught hast Thou created (all) this! glory to Thee! give us salvation from the penalty of the Fire.”*⁵

As Allah SWT stated in sura Ali Imron verse 191 above that Allah SWT create all of both in the sky and in the earth, there are no unuseful.⁶ Including on pineapple’s peel, although appertain of waste, it is can be used as meat tenderizer.

In the book entitled *Principles of meat science*, Aberle *et. al.*, explain that meat quality describes how much meat is attractive to consumers. Meat must look good to consumers before satisfying their palate when they decide to buy it. Once the meat is bought, cooked, and served, the aroma, tenderness, juiciness, and flavor must meet the expectations. The aroma and juiciness can be improved using spices and cooking method. However, the tenderness and flavor depend on textural characteristics, composition of meat, and many other factors.⁷

In this case, the researcher plans to practice waste management by using recycling methods to decrease waste of food industry, especially waste of pineapple’s peel. This recycling will be conducted to identify a potency of pineapple’s peel that contain bromelain enzym as meat tenderizer which is one of meat quality decisive factors.

Based on background of the research above, researcher will conduct research entitled **The Influence of Waste of Pineapple’s Peel (*Ananas***

⁵ A. Yusuf Ali, *The Holy Qur’an Text, Translation, and Commentary*, (USA: Amana Corp, 1983), P. 173-174

⁶ Majlis kajian Interaktif Tafsir Al-Qur’an, <http://mkitasolo.blogspot.com/2011/10/tafsir-surat-ali-iron-3-ayat-188-191.html>, accessed on May, 31st 2013

⁷ Dinh Tran Nhat Thu, “Meat Quality: Understanding of Meat Tenderness and Influence of Fat Content on Meat Flavor”, *Journal of Science and Technology development* (University of Technology, VNU-HCM, 2006), p. 65

***Comosus (L) Merr*) As The Source of Bromelain Enzyme to Increase Meat (Local Beef) Quality.**

B. Question of the Research

This research is done in order to answer the following problem, how is the influence of pineapple's peel (*Ananas Comosus (L) Merr*) as the source of Bromelain enzyme to increase meat quality

C. Objective and Benefit of the research

The objective of this research will find out the influence of pineapple's peel (*Ananas Comosus (L) Merr*) as the source of Bromelain enzyme to increase meat quality. Based on objectives, the benefit can be acquired from this research can be stated as follows:

1. For the researcher and institution

By doing this research, hopefully can increase knowledge researcher and annotating research to the institution about capability of waste of pineapple's peel (*Ananas Comosus (L) Merr*) as source of Bromelain enzyme to increase meat quality. And this research can be used study material for the next research.

2. For the society

By doing this research, hopefully can give solution to the society about waste management and make do waste to be useful product like as material to increase meat quality.