

**ENZYMATIC EXTRACTION OF HYDROLYZED GELATIN
FROM *Nemipterus japonicas* (ikan kerisik) WASTE**

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	<i>CURICULUM VITAE</i>	

ABSTRACT

ENZYMATIC EXTRACTION OF HYDROLYZED GELATIN FROM *Nemipterus japonicus* (IKAN KERISIK) WASTE

Enzymatic play an important role as to speed up the reaction for particular substances, and in this research the proteolytic enzymes were applied to extract the gelatin to become hydrolyzed gelatin. This research was used *Nemipterus japonicus* or locally known as “ikan kerisik” waste which is consisting of skin and bone was been extacted to obtain the gelatin production. Two different enzymes which are alcalase and papain enzyme were used to extract the hydrolyzed gelatin and also combination of both enzymes was used in this study. The aim is to compose and identify optimum enzyme to produce highest yield and best quality of hydrolyzed gelatin. Meanwhile, in order to measure the amount of the production yield, the wet weight percentage and dry weight percentage together with the protein result percentage was been determined to calculate the highest yielding of hydrolyzed gelatin. Moreover, the quality of the hydrolyzed gelatin has determined due to its physiochemsitry which was devided into pH value, protein content and also the moisture content. Based on this study, combination of alcalase and papain enzymes had shown the highest yield and the best quality of gelatin then followed by alcalase enzyme and lastly the papain enzyme. The quality of the gelatin actually is still lack of information and it is recommended for the future study to include several indicators in proving the quality of the gelatin such as the anti-oxidant and the ability of water holding.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Gelatin also known as gelatus is a stiff, frozen, translucent, colorless, brittle in dry form, flavorless in food is derived from collagen that obtained from various types of raw animal materials. Gelatin is an irreversibly hydrolyzed form collagen where the hydrolyzed will be reduce the protein fibrils into smaller peptides which will have broad molecular weight ranges associated with the physical and chemical due to the method of denaturation hydrolysis. Gelatin hydrolyses have potential in various aspect either in anti-oxidant activity, hypertension disable, anti-microbe and also usage in food industry act as ingredients in food formulation (Limpisophon *et al.*, 2014). Commonly, gelatin is used as a gelling agent either in food, pharmaceutical drugs, photography, or cosmetic manufacturing. It can be found mostly in gummy candy as well as the other product such as marshmallow, gelatin desserts and also in ice cream, dips and yogurts (Kodjo *et. al.*, 2010)