

CHAPTER 1

INTRODUCTION

1.1 Lactic Acid Bacteria (LAB)

At present, lactic acid bacteria (LAB) are group of Gram-positive, non sporing, nonrespiring cocci or rods (Wood and Hollzapfel, 1995), which produce lactic acid as the major endproduct during the fermentation of carbohydrates. LAB play an essential role in food fermentation processes. Raw foods including milk, fruit, vegetables and meat are often preserved by lactic acid fermentation. In fermented food industry, LAB has been used starter cultures in fermentation process. LAB produces a variety of antibacterial compounds such as organic acids, diacetyl, hydrogen peroxide and bacteriocins (Daeschel, 1989).

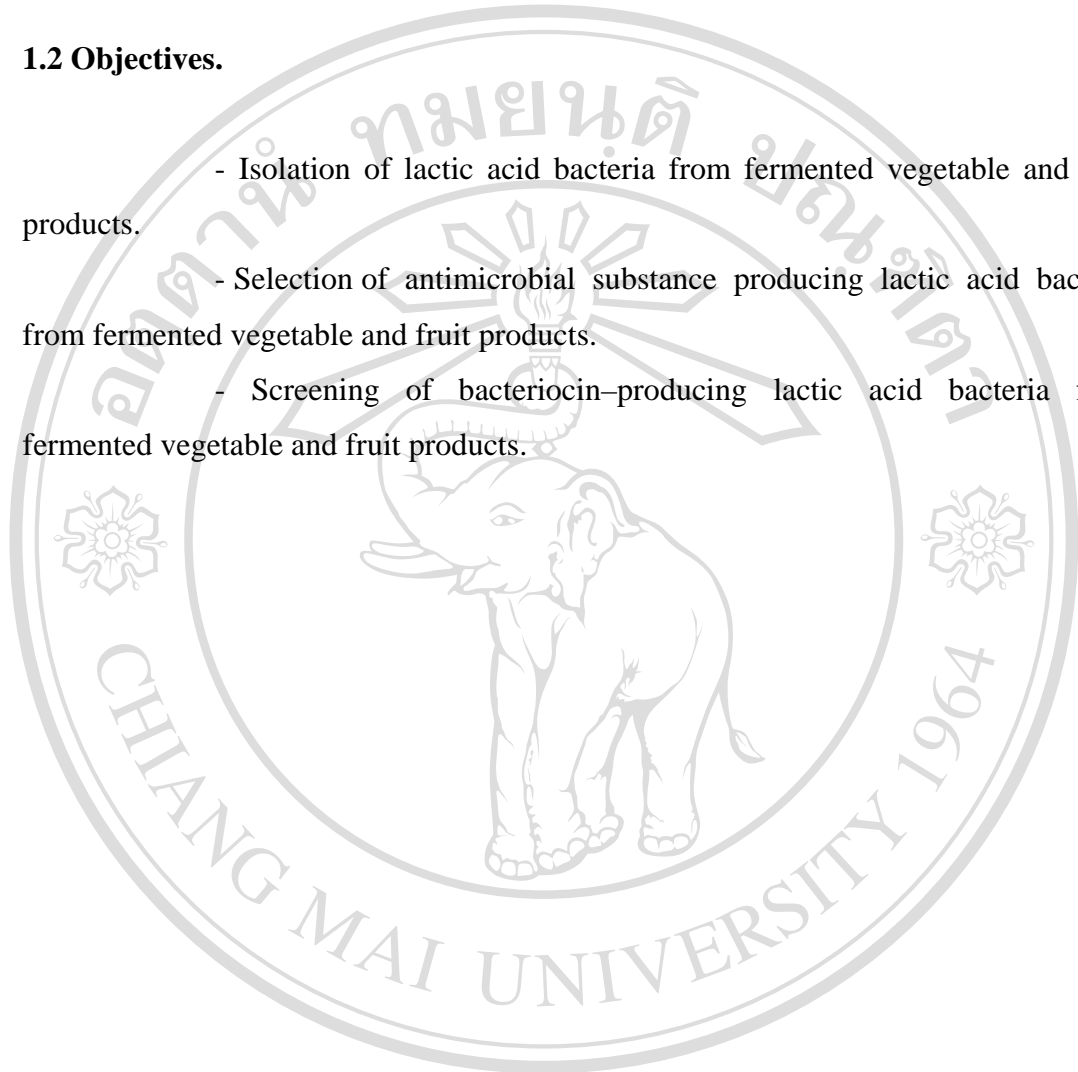
In Thailand, LAB are mainly responsible for the fermentation of vegetables such as Puk-sian-dong, Puk-gard-dong, Kra-tium-dong and other products, but the indigenous LAB flora varies as a function of the quality of the raw material, temperature and harvesting conditions. Spontaneous fermentation thus leads to variations in the sensory properties of the products (Untereiner, 1989). Bacteriocins are antibacterial protein compounds which have bacterial activity against a limit range of microorganisms and are potential for use as natural food preservative due to the recent customer trends favoring food without preservative.

In these work were to selection and identify bacteriocin-producing LAB with potential of use for extending the shelf life and/or increasing the microbiological safety of fermented vegetable and fruit products. Anyhow screening of bacteriocin used for starter culture to be helpful and development the local fermentation for stable

of colour, scent and taste. Including the products were good quality equal to produce in fermented food industry.

1.2 Objectives.

- Isolation of lactic acid bacteria from fermented vegetable and fruit products.
- Selection of antimicrobial substance producing lactic acid bacteria from fermented vegetable and fruit products.
- Screening of bacteriocin-producing lactic acid bacteria from fermented vegetable and fruit products.



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