

JUMRUS NIMITHPORNCCHAI : PREPARATION OF POWDERED MEAT TENDERIZER FROM PROTEOLYTIC ENZYMES (PAPAIN) EXTRACTION OF Carica papaya L. LATAX. THESIS ADVISOR : ASSO. PROF. SURAI SAISORN, M.S., THESIS COADVISOR : INST. SUTHEE SUNTHORNTHUM, M.S., ASSO.PROF. ORANONG KANGSADALAMPAI, Ph.D., 83 PP. ISBN 974-579-579-8

Papain is a proteolytic enzyme or mixture of enzymes (chymopapain, papaya lysozyme) extracted from the latex of unripe fruit of Carica papaya L.

Papain was extracted from the latex of the unripe fruits of Carica papaya L. which were collected while they were still on the trunk. The proteolytic activity of papain analyzed by the method expressed in the U.S. pharmacopoeia was 26383.2 units/mg. The proteolytic activity of extracted papain was higher than that of crude papain 40.17%. Meat tenderizer, contain 1% extracted papain, were prepared. The proteolytic activity of the meat tenderizer was 198.49 units/mg for the product prepared by mixing papain with the other diluents and 182.56 units/mg for the product prepared by spray drying technique. The ability of meat tenderizer to tenderize meat was evaluated by measuring shere press and sensory evaluation test. There were no significant difference between the meat tenderizers prepared in this study, but the prepared meat tenderizers were better than those of comercial product ( $P < 0.05$ ). The appropriate amount of prepared-meat tenderizers were 3 gm for meat 100 gm.

The proteolytic activity of prepared-meat tenderizers were compared with commercial product by analyzing the proteolytic activity every 15 days during they were kept at room temperature for 90 days. The result showed that proteolytic activity of all meat tenderizers were decline. Commercial product had most decline and the prepared-meat tenderizer, by mixing papain with the other ingredients, had the least decline.