Sureerut Jomkiaw 2010: Dry Cured Ham Product from Chicken Thighs: Changes of Free Fatty Acids, Non-Protein Nitrogen Compounds and Antioxidant Peptides during Processing. Master of Science (Food Science), Major Field: Food Science, Department of Food Science and Technology. Thesis Advisor: Associate Professor Wunwiboon Garnjanagoonchorn, Ph.D. 107 pages.

Large quantities of products from fresh chicken meat are produced in Thailand. Dry cured ham from pork leg are found widespread in many countries but not well known among Thai consumer. To increase chicken meat consumption it is interesting to develop dry cured ham from chicken thigh. The changes of chemical and physical properties of ham during curing were also studied. The effect of processing conditions on salt content, pH, a_w and sensory attributes of ham were determined. The analysis of salt content by Volhard method and Ion selective electrode (ISE) were compared, where ISE method was found more suitable. The results showed that curing salt of 10 g/kg of chicken thigh, curing temperature of 4°C with control rate of moisture lost from ham are considered important in order to obtain sensory quality similar to dry cured ham from pork. Ham qualities were determined during 45 days curing. The results showed an increase in salt content from 3.27 to 14.93% and pH increased from 6.48 to 7.29. In addition, water activity (a_w) decreased from 0.884 to 0.685 and non protein nitrogen (NPN) content increased gradually whereas total protein decreased during curing. Furthermore, the percentage of total fat were slightly changed and free fatty acid (FFA) increased during curing. The filtrate of chicken thigh dry cured ham extract with 7%TCA showed a decrease in antioxidant activity (DPPH method) with an increase of curing time. Meanwhile the water soluble protein extract from chicken dry cured ham showed an increase in 7-25 kDa peptides during curing.

_____ _____ ___ / ___ / ____

Student's signature Thesis Advisor's signature