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SUKON PHILUK : EFFECT OF STORAGE AND COOKING ON LIPID OXIDATION IN PORK. THESIS ADVISORS : NAIYANA BOONTAVEYUWAT, M.Sc. (Biochem.), Ph.D.(Bio.Tech.), SIRIPRAPA KLUNKLIN, M.P.S.(Food and Nutrition Planning),WONGDYAN PANDII, Dr. P.D.(Epidemiology) 133 p. ISNB 974-662-767-8

From the increased rated of death caused by heart disease and cancer in Thailand, it was found that there were certain related factors such as genetic and food habit, particularly high fat consumption. Meat has been popularly consumed and composed of fat which would be oxidized to hydroperoxide, aldehyde and ketone. Such compounds could change and destroy cells, resulting in atherosclerosis, coronary heart disease, cancer and aging. The objective of this research was to study lipid oxidation in raw, fried and boiled pork, which consists of tenderloin, shank and belly portions. The shank was studied difference on the surface area to oxidation by ground and pieces of pork. After that stored at 4 °C for 3, 5 and 7 days and at -20 °C for 3, 5, 7, 30, 60 and 90 days. Two parameters, peroxide value (PV) and thiobarbituric acid value (TBA), were used as indicators of lipid oxidation. All data were analyzed by using one-way and two-way ANOVA.

These results found that the tenderloin and shank had lipid oxidation values more than the belly portion. The lipid oxidation values of ground and pieces pork were not statistically significantly different. The boiled pork had lipid oxidation more than fried pork and raw pork. The lipid oxidation of stored pork at 4 °C was higher than at -20 °C. The stored time of pork at 4 °C should not more than 3 days but stored pork at -20 °C could be stored long time to 90 days.