Thesis Title Effects of Storage Temperature and Time on Nutritive value and Rancidity of Frozen Ground Pork.

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ABSTRACT

Quality of frozen ground pork kept at -23°C ,-18°C and -12°C for 7 30 60 and 90 days was studied by emphasize on nutritional change in moisture,protine,fat,vitamin B_1,vitatin B_2,vitamin B_6, vitamin B_{12} and rancidity which detected by TBA value.The experimental plan was Factorial Experimental Design.The result found that the nutrient content and TBA value of fresh ground pork were statistic significantly ($p<0.05$) higher and lower respectively,than the frozen ground pork . The analysis show that fresh ground pork contained 74.38±1.03 % moisture, 10.86±0.55 % protein, 26.59±1.72 % fat(dry weight), 0.89±0.88 mg/100g B_1 vitamin, 0.59±0.04 mg/100g B_2 vitamin, 1.34±0.65 mg/100g B_6 vitamin, 1.30±0.14 µg/100g B_{12} vitamin and 0.02±0.01 TBA value.

The further study was concentrated on the effect of storage temperature and time on nutrient content and found that longer stroage time got the more nutritive value loss. After 90 days of storage ,the

frozen ground pork contianed 61.71±1.09% moisture ,7.36±1.50 % protine, 11.74±2.34 % fat, 0.28±0.04 mg/100g B_1 vitamin, 0.18±0.05 mg/100g B_2 vitamin, 0.43±0.11 mg/100g B_6 vitamin and 0.39±0.67μg/100g B_{12} vitamin. In addition, the contents of moisture, protein , fat, B_1 vitamin, B_6 vitamin and B_{12} vitamin in each frozen stroage temperature would be statiic significant between the frozen product temperature at -23°C and -12 °C which was slightly decreasing when stored at the higher temperature.Statistical analysis of B_2 vitamin content had significant between the frozen product temperature at-12°C and the other (-18 °C and -23°C) but the keeping temperature at -18°C and -23°C were not statistical significant. Approximately 44.07 % of B_2 vitamin loss when the product was kept at -12 °C ,

For TBA value, which used as index of rancidity was increased by storage time. The highest TBA value was found when sample stored at -12 °C for 30 days and at-18°C and -23°C for 60 days then decline gradually until constant for 90 days.

In summary, for this result it is indicated that fresh food has good nutritional quality, but it is necessary in life-style for keeping as frozen food. The results of this research recommend to kept -12 °C frozen ground pork for 30 days and 60 days for -18°C and -23°C frozen ground pork.