

Chalermkwan Pitisobhanangkul 2011: Measurement of Cesium-137 in Cow Milk Processing of Thailand Using Gamma Spectrometry. Master of Science (Applied Radiation and Isotopes), Major Field: Applied Radiation and Isotopes, Department of Applied Radiation and Isotopes. Thesis Advisor: Associate Professor Pannee Pakkong, M.S. 91 pages.

The specific activities of Cs-137 of cow milk processing pasteurized and UHT using HPGe gamma spectrometry, The result in cow milk processing one liter, in Four brands of samples were P1 P2 U3 and U4 . The specific activities had been found in four brands of cow milk processing were  $0.13 \pm 0.07 \text{Bq/kg}_{\text{fresh}}$ ,  $0.19 \pm 0.07 \text{Bq/kg}_{\text{fresh}}$ ,  $0.12 \pm 0.08 \text{Bq/kg}_{\text{fresh}}$ , and  $0.18 \pm 0.07 \text{Bq/kg}_{\text{fresh}}$ , respectively. In similar volume of samples, will 3 different brands cow milk processing were prepared as dry samples and measured specific activity, The result of specific activities of Cs-137 in dried milk samples were  $0.16 \pm 0.04 \text{Bq/kg}_{\text{fresh}}$ ,  $0.17 \pm 0.04 \text{Bq/kg}_{\text{fresh}}$ , and  $0.14 \pm 0.04 \text{Bq/kg}_{\text{fresh}}$ , respectively. counting time for measurement cow milk processing and dry milk from LLD and MDA in cow milk processing and dry milk were selected 100,000 sec and 80,000 sec respectively. Calculation on statistical analysis of critical limit ( $L_c$ ).The critical limit in cow milk processing for dry samples were Lower than cow milk processing in all samples which can be used to confirm accuracy of specific activities of Cs-137 in cow milk processing

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Thesis Advisor's signature