

3636405 RANU/M : MAJOR : NUTRITION ; M.Sc. (NUTRITION)

KEY WORDS : COOKING OIL / MUTAGENIC / FRYING

WIMONRAT WISUTTISAK : MUTAGENIC POTENTIAL OF
NITRITE TREATED COOKING OILS USED IN FRYING SOME FOODS.
THESIS ADVISORS : KAEW KANGSADALAMPAI, Ph.D., ANADI
NITITHAMYONG, Ph.D., WANNEE KUSAMRAN, Ph.D. 69 p. ISBN 974-661-
767-2

The Salmonella / microsome mutagenicity test according to Ames *et al.* was performed in order to detect possible mutagenicity of repeated deep frying fat fractions of two edible oils, palm oil and rice bran oil, after repeated frying of potatoes, lean pork meat and sausages. Furthermore, the mutagenicity of oil-nitrite mixture after repeated heating without food were investigated. The Ames assay was carried out without metabolic activation. The results show no mutagenic effects of the fractions of deep frying fats nor of the oil-nitrite mixture. However, the evaluation of fried and raw sausage samples in simulated gastric condition showed that mutagenic activity was present only in the sample containing enough sodium nitrite to react with some precursors in heated oil for mutagen formation.