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PANNEE HANKIMHUN : MUTAGENIC POTENTIAL OF RAW AND PICKLED FRUITS AND VEGETABLES TREATED WITH NITRITE. THESIS ADVISOR : KAEW KANGSADALAMPAI Ph.D., ANADI NITITHAMYONG Ph.D., WANNEE KUSAMRAN Ph.D. 60 p. ISBN 974-588-999-7

Ethanol extracts of raw and pickled fruit and vegetables namely; garlic, cabbage, shallot, mushroom, cucumber, ginger, chinese mustard, bamboo shoot and mango were evaluated for their mutagenic potential using *Salmonella typhimurium* strains TA98 and TA100 of the Ames test in the absence of metabolic activation. Nitrite (500 mM) was interacted with the extracts at pH 3.0 for 4 hours at 37°C and the reaction mixtures were evaluated for mutagenicity and the presence of *N*-nitroso compound content. Commercial pickle samples were also purchased and evaluated for comparison. Results showed that all samples exhibited direct-acting mutagenicity towards both strains. The nitrosation products of these samples showed higher mutagenicity than the raw ones. In addition the mutagenicity of nitrite treated samples were not correlated with the amount of *N*-nitroso compounds.