

**ASSESSMENT OF CADMIUM AND LEAD IN  
THE ORGANS OF INDIAN MACKEREL  
(*Rastrelliger kanagurta*) FROM  
KLANG VALLEY  
MARKETS**

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## ABSTRACT

Fish has a good source of protein, vitamins, minerals and polyunsaturated fatty acids (PUFA). However, the seriousness of heavy metals leads the marine environmental pollution to be recognized as a serious matter to human health concern. The aim for this research is to elucidate the safety level of heavy metals in fish for human consumption. The concentrations of lead (Pb) and cadmium (Cd) were determined in *Rastrelliger kanagurta* bought from both wet markets and supermarkets in Klang Valley and the results for both of these markets were compared. The organs that involved in this study were brain, liver, gills, intestine, kidney and muscle tissue. Heavy metals of the samples were detected using flame atomic absorption spectrophotometry (FAAS). ANOVA statistical analysis indicated significant differences in Cd ( $P < 0.05$ ) for muscle tissue and intestine from both wet market and supermarket. Results showed that Pb in muscle tissue from wet market and supermarket was found to have lower concentration of the mean values (2.96 and 4.18 mg/kg, respectively) than the permissible level set by Malaysia Food Regulation (1985) and WHO, whereas only muscle tissue from supermarket has slightly exceeded Cd concentration (7.83 mg/kg) as compared to the permissible level set by Malaysia Food Regulation (1985). Muscle tissue from supermarket was found to have Cd and Pb higher than the wet market, but other organs like brain, kidney, gills, liver and intestine from supermarket were lower than the wet market. Dietary intake of Pb estimated from weekly consumption of 350g of *Rastrelliger kanagurta*, may posed no health risks except for Cd.

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