

**Fatty acid profile of the oil extracted from fish waste (head, intestine and liver)
(Sardinella lemuru)**

ABSTRACT

Fish lipid contains long-chain n-3 (omega-3) PUFA, particularly EPA (C20:5 n-3) and DHA (C22:6 n-3). Consumptions of these PUFAs have been perceived to be important in human nutrition, health and disease prevention. World fish lipid request continue to increase. Fish lipid that contributes to the nutritional needs is currently being extracted from liver or muscle of cod, herring, mackerel and sardine. Sardine, the important industrial fish, discharged considerable amount of wastes. These wastes include the head, liver and intestine. Substantial amount of lipid can be extracted from these wastes. All the extracted oils were less than 6 % of which the highest was in liver (5.80 %). The predominant fatty acids in sardine wastes were palmitic (C16:0; 27.80- 35.56 %), stearic (C18:0; 5.90- 9.30 %), oleic (C18:1c; 15.47- 21.79 %) and docosahexaenoic acid (DHA; C22:6; 11.87- 15.95 %). The n3 / n6 ratio of the respective head, liver and intestine lipid samples showed the value higher than 1. Due to n-3 fatty acid compound and n-3 / n-6 ratio, lipid from sardine waste may be a valuable source for human consumption.

Keyword: N-3 fatty acid; Fish waste; Fish lipid; N-3 / n-6 ratio; EPA; Docosahexaenoic acid