

Suwat Netjaroen 2009: Chemical Composition and Fatty Acids Content in Some Marine Bivalves of Thailand. Master of Science (Fishery Products), Major Field: Fishery Products, Department of Fishery Products. Thesis Advisor: Assistant Professor Pattama Ratana-arporn, Ph.D. 122 page.

The aim of this study was to evaluate the factors affecting physical, chemical and fatty acid compositions of some marine bivalves, i.e., green mussel, oyster, cockle and clams. Experiments were conducted to study the compositions of green mussel of 3-8 months age of each sex; the compositions varied by season and sex for green mussel and oyster, and those varied by season for cockle and clam of commercial sized. In order to correctly analyse the fatty acid composition, the appropriate method was also studied, Extracting and Methylation according to Bligh and Dyer (1959) and Holub and Skeaff (1987) was suitable for fatty acid analysis in bivalve studied.

As green mussel grew, the length obviously increased together with protein, carbohydrate and lipid especially polyunsaturated fatty acid (PUFA) which were significantly higher ($P < 0.05$) in 6-8 month-aged than those in 3-5 month-aged. For green mussel, oyster, cockle and clam of commercial size, the correlation among physical characteristics, chemical composition and PUFA composition were found. The seasons in which bivalves were considered nutritious were different in each type, i.e., green mussel, oyster and cockle in summer; clam in rainy season. In contrary, during spawning period, significant lowering in weight, lipid content and PUFA especially eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) were found in all female bivalves. All bivalves studied were considered to be good sources of PUFA especially EPA, DHA and arachidonic acid (ARA) which are beneficial for human health.

Student's signature

Thesis Advisor's signature