

Comparison of Fat Soluble Vitamins, Carotenoids and Cholesterol Content in *Mytilus galloprovincialis*, *Rapana venosa* and *Ulva rigida* from the Black Sea

Authors : Diana A. Dobreva, Veselina Panayotova, Albena Merdzhanova, Lubomir Makedonski, Mona Stancheva

Abstract : Many studies suggest that marine mollusks are healthy food, characterized by low fat and high digestible proteins content. They are one of the most important dietary sources of fat soluble vitamins. The most common species of mollusks in the Bulgarian Black Sea waters are the black mussel (*Mytilus galloprovincialis*) and the sea snail *Rapana* (*Rapana venosa*). One of the main problems of the region is the lack of information about chemical composition of these important marine species. Due to these facts, the aim of the present work was to determine the fat soluble vitamins A, D2, D3, and E, carotenoids- β -carotene and astaxanthin, and total cholesterol contents of mollusk samples and compare them to sample of green algae (*Ulva rigida*). Samples were collected during autumn from north region of the Black Sea coast, and their wet tissues were used for evaluation of vitamins A, D2, D3, and E, astaxanthin, β -carotene and cholesterol compositions. All fat soluble analytes were simultaneously analyzed by RP- HPLC/UV/FL system. The results were calculated as milligrams per gram total lipid (mg.g⁻¹TL). Alpha-tocopherol and β -carotene were most abundant in algae samples, while mussel samples presented the highest amounts of vitamin D3 (several times higher than the recommended daily intake in Bulgaria (Ordinance № 23 / 19.07.2005)). In all samples, cholesterol content was significantly low, which falls within recommendation of the same ordinance (upper daily consumption should not exceed 300 mg per day). From data, it can be concluded that all samples were characterized as beneficial sources of biologically active compounds.

Keywords : fat soluble vitamins, carotenoids, mussel, rapana, algae

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020