

Valorization of underexploited fishery resources: possibilities for contributing to human health and well being

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Abstract

Seafood is an important source of animal protein and naturally rich in valuable nutrients such as omega-3 (n-3) polyunsaturated fatty acids (PUFA), vitamin A, D3, B12 and trace minerals (iodine, selenium, Zn) among others. The demand for seafood is still growing and implies a risk of overexploitation. However, there are still underexploited resources as low-value fish, fish waste/by-products and discards, sometimes up to 40 to 50% of the catch. These are often unmarketable due to various reasons such as for example unpleasant taste, presence of bones, size, etc. Use of these resources is still a great challenge for the sector requiring innovative technological strategies. Analyzing the composition of specific fish fractions such as skin, bones, head, viscera has shown the presence of n-3 fatty acids in certain non-fatty fish fractions. In addition, analyzing the effect(s) of various processing techniques indicated important differences concerning the effect(s) on nutritional valuable components. Various proteins, peptides, lipids and numerous compounds with bio-active properties can be recovered and used in high priority fields such as food, biomedicine, pharmaceuticals contributing to human health.

Tailor-made nutritionally designed attractive seafood products for children, pregnant woman and elderly, vulnerable groups for which seafood consumption is often limited and dietary recommendations are not always met, can be produced using these resources and are under development.

Keywords: underexploited seafood resources; bioactives; health-beneficial; nutrition; byproducts; valorization

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