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IJBLS 2023; 2(2):333-333

International Journal of BioLife Sciences

Abstract

Valorization of Unusable-Farmed Mussels (*Mytilus galloprovincialis*) by Estimating Their Content of Bioactive Compounds

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***Received**: 21 September 2023* ***Revised**: 29 September 2023* ***Accepted**: 6 October 2023*

Abstract

Background and Aim: The objective of this study is to valorize unusable-farmed mussels (*Mytilus galloprovincialis*) by estimating their content in bioactive compounds. The broken non-marketed farmed mussels were recovered in an aquaculture farm located in eastern Oran (Algeria).

Method: The mussels were cleaned, the flesh was separated from the shell and the byssus was removed. The water content was determined by drying at a temperature of 105°C. The ash content (mineral matter) is determined by incineration at 550°C. The total lipids are estimated according to the method of Folch (1957). The determination of proteins is carried by the method of Nessler (1977). Calcium and magnesium contents are determined by an enzymatic colorimetric method (Kit Spinreact, Spain) and the anti-free radical activity was evaluated by the DPPH test at the flesh and shell level.

Results: The results obtained show that the mussel flesh has a high content of protein (11.58 g/100 g), total lipids (1.95 %), calcium (26.77 mg/100 g), magnesium (19.49 mg/100 g) and water (82 %). Moreover, the shell is particularly rich in minerals, especially calcium (27.45 mg/100 g). Moreover, the capacity of scavenging DPPH free radicals in the mussel flesh and shell is considerable (1.6% and 0.93%, respectively).

Conclusion: In conclusion, the mussel *Mytilus galloprovincialis* has been shown to be an important source of nutrients and micronutrients, particularly proteins and minerals. Thus, it would be interesting to recover these unusable mussels and to valorize them given their remarkable nutritional interests.

Keywords: *Farmed mussel, Mytilus galloprovincialis, Valorisation, Waste, Bioactive compounds*

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