

AQUATIC BIOMASS VALORIZATION

Have you ever heard about BLUE ECONOMY?

The blue economy is a sustainable economic model that proposes new solutions for ocean-related activities and in which aquatic spaces are considered engines of innovation and growth. The concept is based on the imitation of nature, following the principle of the circular economy, to convert waste back into efficient materials.



FISH WASTE OR ALGAE CAN ALSO HAVE A VALUE: every year, 6-8 million tons of fish waste are produced globally. Do you know that fish waste can be a raw material to produce new biomaterials?

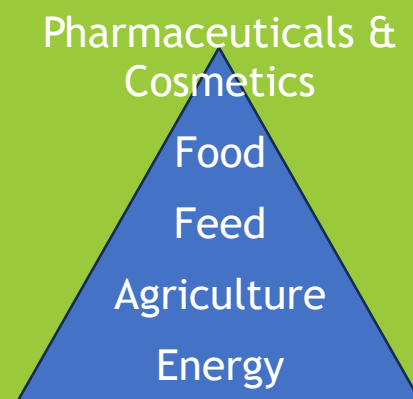


CLOSING THE CIRCLE: THE CIRCULAR ECONOMY

The valorization of waste or residues from the processing of aquatic biomass can reduce waste disposal costs and generate added value with the recovery of several valuable molecules such as oils, proteins, pigments, bioactive peptides, amino acids, collagen, chitin, and gelatin. They can have applications in several industrial sectors!



THE BLUE BIOREFINERY FOR THE ENVIRONMENT and ECONOMY



SOME EXAMPLES



Calcium carbonate, a biomaterial useful in the building industry or for water treatment, chitin for cosmetic or health products, and proteins for animal feed or use as fertilizer can be recovered from shell waste.

<https://site.unibo.it/caseawa/en>



Green algae waste extracts incorporated into a chitosan-based edible coating and applied to red tomatoes, can minimize post-harvest losses and extend shelf life, improving product quality.



Fish gelatine and chitosan have excellent characteristics for the production of films to be used in food packaging as an alternative to plastics.



Fish scales have a structure similar to that of human tissues: they are rich in collagen, peptides, gelatin, chitin, and hydroxyapatite, and therefore can be used in the food, cosmetic, medical, bone or cartilage repair industries, and for wastewater treatment.

