FISH chitinolytic biowastes FOR FISH active and sustainable packaging material

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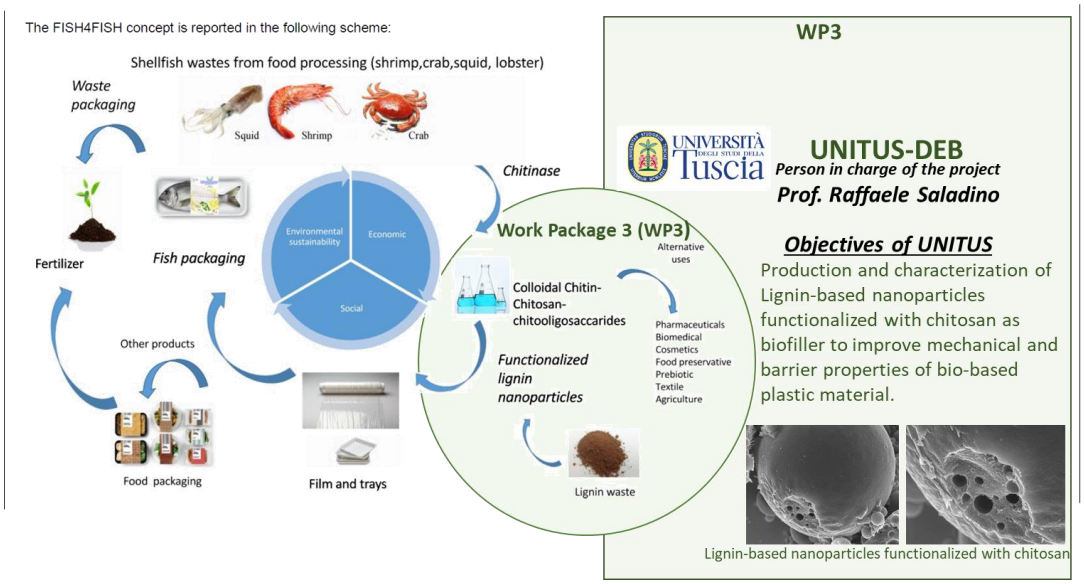
The fish industry has a strong need to improve marketability and to extend the shelf-life of fresh fish, shortened by microbial spoilage. At the same time, the size of this industry is so big that it produces huge amounts of plastic containers and more than 10,000 tons/year of shellfish food waste. Packaging plays a critical role in the fish supply chain and can be part of the solution to tackle food waste. The FISH4FISH project aims to produce innovative active and sustainable packaging material based on chitinolytic derivatives, using marine biomass wastes. Such packaging is able to tackle microbial spoilage, enhancing fish shelf life, and, in the post-consumption phase, once it is wasted, it can be used by consumers as fertilizer and microbial preservatives for plants. Chitin obtained from marine biowastes will be treated to obtain colloidal chitin and its deacetylated forms, chitosan. Lignin nanoparticles will be functionalized with chitooligosaccharides and used as active biofiller in the preparation of the new polymeric materials. In this way, renewable resources are exploited in a sustainable manner, promoting bio-based, environmentally friendly and beneficial technologies, and create high-performing materials for a wide range of applications. Fishing and distribution companies using such innovative packaging will be able to gain competitive market positions and to avoid the use of plastics.



Link to Web site link: http://fish4fish.dbcf.unisi.it/