



Università degli Studi di Napoli Federico II

PhD in Biotechnology - 34th cycle

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Reinforcement of hydrocolloid bioplastics aimed at food packaging

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Bioplastics, generated from renewable natural sources, are eco-friendly alternative to the petroleum plastics [1]. Different proteins will be used to prepare these materials. In particular, the proteins from a) whey, a byproduct from dairy industry possessing a valuable resource of nutrition [2], b) from bitter vetch, a plant resistant to harsh conditions with high yields of protein [3] and c) from oilseeds, important sources of low-cost proteins with good functionality [4]. To improve the functional properties of the hydrocolloid films, the enzyme transglutaminase will be exploited with low concentration of polyamines to produce (γ -glutamyl) Bis-derivatives [5]. Liposomes will improve the functional properties of the novel materials as they will help to produce active packaging with controlled release of bioactives [6].

References

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