



L'abstract presentato all'European PhD Network "Insect Science" riguardante «Innovative processes for lipid extraction from bioconverter insects, qualitative and quantitative evaluation and industrial applications for the formulation of personal care products» è inerente al progetto:

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GO BIOCONVERSIONE

Valorizzazione dei reflui zootecnici mediante tecnologia innovativa basata sull'utilizzo dell'insetto bioconvertitore *Hermetia illucens*
Valoriz.Zoo

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Innovative processes for lipid extraction from bioconverter insects, qualitative and quantitative evaluation and industrial applications for the formulation of personal care products

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The use of insects as a new source of lipids and proteins is a topic of great interest from both environmental and economic point of view. The bioconversion process mediated by the saprophagous insect *Hermetia illucens* is very advantageous because from substrates of low economic and biological value, as for example agri-food by-products or zootechnical waste and catering waste, only for scientific purpose, it is possible to obtain products of high commercial value. My PhD project proposes the extraction of lipids and the use of certain fatty acids, principally lauric acid, for the formulation of new products for personal care (shampoo, detergent, soap) from *H. illucens*. Different types of organic by-products will be used to feed the insect by exploiting its incredible bioconversion performances. *H. illucens* ability to bioconvert organic substrates into valuable products represents a valid solution to the request for the implementation of sustainable processes in a circular economy perspective. The project involves the construction of a biofabric (bio-farm) for the large-scale breeding of *H. illucens*, suitable for the bioconversion of agri-food by-products. A massive production of larvae reared on the “best diets”, in terms of both lipid component and lauric acid content of larval biomass, will be carried out. Extracted fats will be used for experimental trials on formulation of products for personal hygiene.