Edible insects and the University of Parma: five years of multidisciplinary research on chemical, microbiological, economic and regulatory aspects

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Nutritional and health benefits of using insects as food and feed

- Fermented insect, in particular puparium, possess high antimicrobial activity against all the pathogens tested.
- Fermented insects have a great potential to be part of new food/feed.

Consumer willingness to eat insects

- Discuss the shifts in societal attitudes, in Europe and the US, towards insects as food, and market opportunities for current and future entrepreneurs in the field.
- Explore the relationship between willingness to try and the actual behavior of eating insects, including as predictors food neophobia, sensory property expectations, previous consumption, beliefs, attitude.
- Evaluate whether and how information (e.g. educational seminar) and exposure (e.g. tasting session like insect buffet) can influence the willingness of consumers to adopt insects as food and to investigate the main factors (e.g., sociodemographic variables) that affect the intention to eat insects.
- Explore consumer attitude, interest and willingness to pay for meat and meat-based products (i.e. duck, duck eggs and pate) from animals partially fed with insect meal.

Regulatory activities

- The University of Parma has participated, together with the University of Milan «Sollate» and the University of Roma Tre, to a public competition (Italian Ministry of Education, University and Research) with an interdisciplinary project titled: «Novel Food: social and legal issues through the lens of scientific knowledge», aiming at promoting a synergetic and innovative work among jurists, scientists and economists in the field of Novel Foods (NF), with particular attention to edible insects.
- CESEA (Center for Studies in European and International Affairs – University of Parma) is developing an interdisciplinary project on Novel Food titled: "Novel Food between law and innovation".

List of publications

Lei, G., Cotti, M., Jacob, I., J., Shin, K., Dall’Osto, C. Impact of Naturally Contaminated Substrates on Athrobotula disparvis and Hermata (Hermatobia): Update and Evolvement of Measures, 2019 Tomis (118)
Lei, G., Caligiani, A., Sogari, S. Killing method affects the breeding and the quality of the protein fraction of Black Soldier Fly (Hermatobia illucens) pupae: a metabolomics and proteomics insight, 2019 Food Research International, 115, 150-155
Caligiani, A., Menozzi, D., Le W., D., Di Lorenzo, A., Sogari, S. Composition of Black Soldier Fly pupae and metamorphosis: Approaches for extraction and fractionation of proteins, fats and oils, 2019 Food Research International, 125, 823-830