

EDIBLE INSECTS AS SUSTAINABLE FOODS: CONSUMER PERSPECTIVE

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Sustainability of food systems has become a major focus in the present century as a result of world overpopulation and a growing need to feed all. According to the United Nations, a significant rise in the population is expected up to 2050. Hence, producing necessary foods in quantity and quality to respond to the expected demand drives agricultural systems and livestock farms to search for alternatives to intensive production techniques, as a way to better preserve the environment and use limited natural resources [1]green (terrestrial plants and insects).

Along with the implementation of innovative and more sustainable agricultural systems and animal rearing techniques, the shift towards alternative, environmentally friendly and more sustainable foods has been encouraged, including by the FAO – Food and Agriculture Organization of the United Nations [2].

Edible insects have been consumed in many and diverse regions of the world since antiquity, being useful and valuable foods for many communities, especially rural populations. While historically insects were collected from the wild for human consumption, the production of insects has been developed as a farming activity or industrial production, following sanitary regulations, thus making them perfectly suitable and safe for human consumption. However, the consumers in regions without a tradition of entomophagy are still facing some reluctance to eating insects, and they show a high degree of discomfort, rejection, and even disgust [3, 4]. Understanding consumer reactions, expectations, motivations and knowledge has been referred to as contributing for a higher acceptability of edible insects and insect-based foods among western countries. The EISuFood project was dedicated to studying the food habits and knowledge about edible insects as sustainable foods in different countries. The countries of the project consortium were Brazil, Cape Verde, Colombia, Croatia, Greece, Latvia, Lebanon, Lithuania, Mexico, Morocco, Nigeria, Poland, Romania, Serbia, Slovenia, Spain, and Turkey. The project has produced important scientific outputs, namely 17 papers already published and some more still being prepared, 2 book chapters, 1 academic thesis, 20 conference presentations, of which one was a key lecture.

Keywords: sustainable food, insect protein, consumer perspective, acceptance.

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References

1. Trujillo-Cayado L. A., Sánchez-García R. M., García-Domínguez I., Rodríguez-Luna A., Hurtado-Fernández E., Santos J. Emerging Trends in Sustainable Biological Resources and Bioeconomy for Food Production. *Applied Sciences*. 2025, 15(12), P. e6555.
2. Van Huis A., Ittebeek J. V., Klunder H., Mertens E., Halloran A., Muir G., et al. *Edible insects: future prospects for food and feed security*. Rome: FAO; 2013.
3. Florença S. G., Guiné R. P. F., Gonçalves F. J. A., Barroca M. J., Ferreira M., Costa C.A., Correia P. M. R., Cardoso A. P., Campos S., Anjos O., Cunha L. M. The Motivations for Consumption of Edible Insects: A Systematic Review. *Foods*. 2022, 11 (22), P. e3643.
4. Szlachciuk J., Żakowska-Biemans S. Breaking the Taboo: Understanding the Relationship between Perception, Beliefs, Willingness to Eat Insects, and Food Neophobia among Polish Adults. *Foods*, 2024, 13(6), P. e944.