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***Tenebrio molitor* AS A NEW PROMISING ALTERNATIVE IN THE PRODUCTION OF FEED AND FOOD**

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Abstract

The global population is growing and the ever-increasing need for proteins from sustainable sources requires urgent actions. The insects represent an alternative solution for several reasons: their nutritional profile is comparable to that of meat from other meat livestock; they can be easily and sustainably reared due to high fertility and reproductive rate; insect rearing facilities can be realized everywhere worldwide; reared insects' availability is not subjected to seasonality; they can grow on low-value substrates such as agri-food by-products. Among these good-to-eat insects, *Tenebrio molitor* (TM) is gaining rising attention from academia and the business world, also in the light of the recent favourable opinion of EFSA and the even more recent approval by the European Commission for the use of mealworms as a Novel Food.

Despite the enormous potential of TM, some aspects related to the impacts on human health have yet to be analysed and some regulatory, psychological and cultural barriers have yet to be overcome in the Western countries. On the other hand, the feed production from TM larvae will be more significantly promoted, since TM feed, already used in Europe for pets and aquaculture, has been approved for monogastric terrestrial animals and poultry at the end of 2021.

Key words: alternative protein sources, circular bioeconomy, edible insects, food safety, *Tenebrio molitor* rearing

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