An alternative Sustainable Source of Protein for Humans and Animals

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Abstract

Entomophagy, the consumption of insects, is promoted as an alternative sustainable source of protein for humans and animals. Seminal literature highlights predominantly the benefits, but with limited empirical support and evaluation. We highlight the historical significance of entomophagy by humans and key opportunities and hurdles identified by research to date, paying particular attention to research gaps. It is known that insects present a nutritional opportunity, being generally high in protein and key micronutrients, but it is unclear how their nutritional quality is influenced by what they are fed. Research indicates that, in ideal conditions, insects have a smaller environmental impact than more traditional Western forms of animal protein; less known is how to scale up insect production while maintaining these environmental benefits. Studies overall show that insects could make valuable economic and nutritional contributions to the food or feed systems, but there are no clear regulations in place to bring insects into such supply systems. Future research needs to examine how the nutritional value of insects can be managed systematically, establish clear processing and storage methodology, define rearing practices and implement regulations with regard to food and feed safety. Each o f these aspects should be considered within the specifics of concrete supply and value chains, depending on whether insects are intended for food or for feed, to ensure insects are a sound economic, nutritional and sustainable protein alternative – not just a more expensive version of poultry for food, or soya for feed.

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