

Insects as Food: Rediscovering a Sustainable Solution for Global Health

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Abstract: *As global food systems face mounting challenges from climate change, population growth, and ecological degradation, the search for sustainable and nutrient-dense protein alternatives has intensified. This study explores the potential of edible insects as a viable solution to food insecurity, malnutrition, and environmental stress. Drawing on an extensive literature review of pre-2018 scholarly work and comparative sustainability data, the research synthesizes findings across six thematic areas: environmental impact, nutritional value, food security, consumer perception, safety regulations, and industrial scalability. The analysis reveals that edible insects require significantly less land, water, and feed than conventional livestock while offering high-quality protein and essential micronutrients, including iron and vitamin B12. Despite clear advantages, the widespread adoption of insects in Western diets is impeded by cultural resistance and fragmented regulatory frameworks. The study highlights the need for integrated policy approaches, public awareness campaigns, and investment in research and farming technologies. Ultimately, edible insects present not only a nutritional innovation but a systems-level opportunity to transform global food production toward ecological and health sustainability.*

Keywords: Insect farming · China · Sustainable agriculture · Black soldier fly