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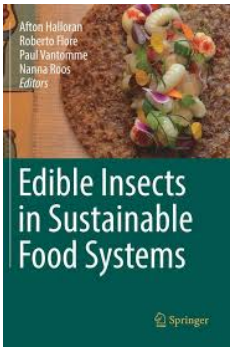

Edible Insects in Sustainable Food Systems

A Review by Varsha V. Prabhu

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In this book, the authors give a detailed explanation of insects for food and feed which would interest anyone who is dealing with the topic of edible insects in sustainable food systems. The inputs in this book were provided by numerous authors from 20 different nations including public, academic, governmental and private sectors, with a focus on clarifying the role of insects in the sustainable food system. This book covers various topics such as entomology, agricultural economics, human nutrition, environmental science, fisheries and many more. It is about 500 pages, divided into 8 parts and 30 chapters.

The book starts with some basic information on the biology of insects, insect structure, gut functions followed by its growth and development. It then specifies on light traps, soil digging, and pheromone traps etc. as some methods to collect particular insects and finally concludes with the importance of understanding the insect biology to consider it as a food and feed.

The book further divulges on the uses of insects in Adi-tribe, North-East India. It specifies the role of insects in weather-forecast, myths and belief, and entertainment etc. In addition, it accounts certain historic practices regarding consumption of certain insects by Inuits in the Arctic and the indigenous uses of insects in North America.

The next part of the book addresses the health benefits of incorporating insects in the diet. This is explained by comparing the nutritional composition of the insects with meat and fish, in particular protein, fats, vitamins and minerals. The books also accentuates nutritional insecurity in East-Africa and the ability of the insects to mitigate it. Further, it delves into the harvesting and processing of insects and their contribution towards food and nutrition security in East Africa. Along with this it also gives a brief analysis of the food safety aspects specifically biological and chemical hazards related to insect consumption.

The book further apprises the readers on the exotic foods using insects, developed by chefs. Some foods mentioned are charred avocado tartare with ant larva, pineapple dessert with leaf cutter ant etc. In addition, the book sheds some light on the attitudes of future chefs towards insects as food. This was justified from the experiment conducted in the university by the chefs.

The second chapter proceeds further with Casu Marzu as an example of insect application in production and processing in Italy. The final chapter discusses a case study on the current use of edible insects in Korea and its innovations in gastronomy.

Environmental impact of Insect production is lower than livestock production. The next part of the book revolves around this concept. It compares insect production with livestock production in terms of land usage, water footprint, and carbon footprint etc. and thus concludes insect production as sustainable source of food when compared to the livestock production. Insects need specific harvesting methods when compared to normal food. The book therefore encloses the traditional methods of harvesting insects in Sub-Saharan Africa.

After focussing on the insects as food and their impact on the health and the environment, the book directs the readers on insects as animal and marine feed. The first chapter compares between the small scale productions of black soldier fly (Hermetia illucens) and house fly (Musca domestica) as a feed. The comparison is concerning per-formance, user-friendliness, safety and sus-tainability. It further draws attention towards the safety regulations of the feed. The follow-ing chapter sheds light on the DESIRABLE project funded by the French national research agency. The project evaluates the performance of larvae mealworm (T. Moliter) for feeding fish and poultry. In short, this chapter deals with new insect value chain and explains the insect rearing and processing. Production of insects in small scales can improve the livelihood of small scale farmers as well as mitigate the dependency on the marketed animal feed thus improving the small scale economies as well as the sustainable development of their regions. Hence the next chapter centres on the need for insects in small scale production and the use of these insects as animal feed in low-income countries. The last chapter highlights the production of mealworm in the feed as well as food.

After discussing on the insects as a feed, the book furthermore focuses on the importance of consumer's preferences and acceptability. It focuses on the consumer's attitudes towards insects in Europe, USA and Kenya.

The last part deals with policies and legislation on the use of insects as food and feed. There are five chapters in this section. The first chapter highlights the PROteINSECT research project which provides details on the application of insects as feed. The other chap-ters mainly focus on the legislation of insects harvesting, processing and growing in Thailand, Africa and the Global South.

Overall, the book delves into multiple topics and also provides detailed information on each topic. The book uses a simple and clear language. The reader gets to learn something new in every chapter but might tend to lose interest due to repeated information in certain chapters. All in all, the book is a good read to get comprehensive knowledge and tweak the reader's interest in the intended direction.

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