

Consumer Acceptance of Edible Insects in Western Markets

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Brief Introduction

Population is growing, and the world does not have enough resources to feed the crowds without compromising the lives of future generations! What if the solution to feed the crowds with minimum harm was closer than we think? In this episode, we will discuss Edible Insects, their benefits, challenges, and Western consumers' acceptance of this novel food item.

Consumer Acceptance of Edible Insects in Western Cultures (Podcast Script)

Burgers, chicken wings, pork chops... Feeling hungry already? What if I told you, soon the world will not be able to provide for all this need for food? But don't worry, there might be a solution. Edible insects! I can already sense the panic, 'Noo! I don't want to eat insects, why would I!'. Well, I wouldn't be so sure.

But first, let's talk about why we are talking about eating insects. We are talking about it, because the world population is estimated to reach almost 10 billion by 2050, and this is a threat to food security - the right of all individuals to access nourishing food consistently. Humans need protein for nourishment, and many depend on livestock products for protein. So, the livestock demand increase with population (Guiné *et al.*, 2021).

The environmental concerns start at this point. Livestock production causes global warming due to greenhouse gases, and it leads to biodiversity loss, water contamination, and climate change. Insects, on the other hand, produce less greenhouse gas, require smaller areas, and need less energy, water, and feed to grow. Moreover, insect production provides job opportunities even in the poorest countries because they are cheap and easy to produce (FAO, 2013; van Huis *et al.*, 2013; Guiné *et al.*, 2021).

They are sustainable livestock alternatives full of protein, healthy fats, and calcium with 1900 different species (FAO, 2013). When we bring everything together, we can see that edible insects have the potential to contribute to environmental, social, and economical sustainability and ensure present and future food security. Are you still horrified by the idea of eating insects?

Now let's dive a little bit deeper. Like everything in life, our new best friends have a dark side. As a highly new form of food in the Western market, insects raise food safety questions due to potential hazards and allergies during production and consumption (Delgado *et al.*, 2023). Nevertheless, when the European Commission approved insect-based frozen, dried, powdered, or grounded ingredients as a novel food in 2023, they solved some of the safety concerns (European Commission, no date) With that being said, the elephant in the room remains. Do we want to eat them?

Well, first of all, everybody should speak for themselves about eating insects. For 2 billion people in some areas of Africa, Asia, and Latin America, insects have always been a part of diets, and not as a last resort, but as tasty ingredients (FAO, 2013; Raheem *et al.*, 2019). But, what makes it delicious to some, and unacceptable to others? Tan and colleagues (2015) tried to answer this question with focus groups from the Netherlands and Thailand. The answer was simple: culture! Edible insects were a part of the culinary culture in Thailand. Therefore, Thai participants considered insects as food and evaluated them based on previous tasting experiences. For the Dutch participants though, it was a little bit more complicated. They did perceive the insects as healthy, sustainable alternatives to meat products. But they were much less willing to eat insects because to the Dutch participants, insects were not food, so they were disgusted by these unfamiliar little guys (Tan *et al.*, 2015).

As we have seen with our example, disgust, and unfamiliarity are the primary barriers to consumer acceptance, along with the general fear of trying new food and food safety concerns (Ros-Baró *et al.*, 2022; Moruzzo *et al.*, 2021). These negative associations occur because of cultural differences (Tan *et al.*, 2015).

Now, let's change the subject a little bit, and talk about a celebrity chef, Alex Atala from Brazil. A few years ago, he had a very unique dish on his luxurious tasting menu: a pineapple cube with a nice, gingery flavor, the flavor was coming from the ants from Brazilian forests (Araújo and Veciana, 2015). Alex Atala's extraordinary dish proves a point made by academics as well: how the insect is prepared matters the most, and restaurants are very good places to start trying these new flavors. Since we can't all go to Alex Atala's restaurant, maybe we should start with smaller steps.

Integrating insects into more familiar items to overcome the unfamiliarity barrier is a good start point (Puteri *et al.*, 2023). Based on research conducted in the Mediterranean part of Europe, consumers would be more willing to try and accept insects as food if they were in the form of flour because it is already a part of everyday life. In fact, lots of research proves using insects as flour is much more acceptable (Ros-Baró *et al.*, 2022). Insect flour can also decrease disgust because less visibility leads to a higher willingness to try edible insects (Puteri *et al.*, 2023).

Packaging and labeling are also crucial points to enhance consumer acceptance. Using a large picture to display the charm and name of our new friends, say, mealworms, may not be very appetizing. But a small label with the name *Tenebrio Molitor* sounds better. But one thing is clear: if insect products are going to be a part of regular consumption in Western countries, no matter what happens, they should taste good and they should be consistently found in everyday places, like retailers (Puteri *et al.*, 2023; Tan *et al.*, 2015). By the way, did you know that in 2018, Sainsbury's became the first retailer to sell cricket snacks, however, they did not continue (The Independent, 2018). Who knows why? Maybe the market was not ready yet.

Do you know who has the power to make the market ready? Marketers! But before shooting for the stars, let's discover what they can do now. First of all, insects are sustainable meat alternatives, and sustainability is a hot topic these days. So, emphasizing the environmental, social, and economic benefits, as well as the health effects and food safety is a good strategy. Also, as Western consumers do not perceive insects as food, introducing them as food items with cooking instructions, consumption tips, and tasting opportunities will be effective (Tan *et al.*, 2015; Ros-Baró *et al.*, 2022; Puteri *et al.*, 2023; Guiné *et al.*, 2021).

Finally, social influence has an undeniable power. Peer influence and celebrity or expert endorsement play crucial roles, and help insect consumption become a regular part of the social life. Social normalization of insects as food will encourage consumer acceptance (Ros-Baró et al., 2022; Puteri et al., 2023).

Well, this is all from me for now! We have discussed edible insects as consumer goods, and mentioned some practical market applications. It appears that for insects to enter Western markets as a regular consumer goods, every food system member, from producers to marketers, policymakers to chefs should work together. As for eating insects, if you ask me, I guess I would be willing to give it a chance! Would you?

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Podcast Music

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