

Insects and insect-based foods

There are many cultures around the world where insects are eaten as part of traditional diet, and are valued for their nutritional and affordability but also cultural significance.

For example, in Thailand and other South East Asian countries, some of the most consumed and sold edible insects include locusts, palm weevils, silkworm pupae, bamboo caterpillars, crickets, red ants, and giant water bugs.

Insects and insect-based products are consumed in various forms. They can be whole insects or processed into food ingredients like flour or powder, which are then used in final products such as energy bars, burgers, or compound feed.

Edible insects boast a high protein content, supply all essential amino acids and are a low greenhouse gas emission food. As the global population grows, insect-based foods can offer a promising protein alternative. However, low consumer acceptance poses a barrier to this development, particularly in Western countries.



Wanting to try out something adventurous and out-of-the-box can be the biggest driver of trying insect-based foods

Adventurousness and curiosity:

Those who are interested in trying insects at least once, are motivated by curiosity and the excitement of trying such an ingredient. Many consumers are interested in trying a product that contains insect powder (e.g. burger, insect protein pasta, crisps) at least once.

Natural:

Insect-based products are perceived as being natural, more so than cultivated meat. Consumers could be interested in insects if they have other attributes associated with naturalness: being locally produced, organic, low fat, or having a low carbon footprint.

Traveling and exposure to such foods:

People who travelled more were more open to trying new foods such as edible insects, possibly due to exposure to such foods, or due to the adventurousness and open-mindedness that also leads them to want to travel.

The feeling of disgust and cultural taboo of eating insects in the West is the biggest barrier

- The biggest barrier for adoption of insects and insect-based products is a psychological barrier of disgust. Perceptions of insects as pests, rather than food, further contribute to low acceptance, as does as lack of exposure and familiarity with insect consumption.
- Trust and knowledge about where the insects come from is also a barrier for consumers. A study in the UK found that half of consumers do not believe that insects or insect-based foods will be safe to eat.
- Predicted taste is a barrier, moreso than actual taste experience. Insects are generally predicted to not be tasty, however consumers who have tasted insects in the past mostly report positive or neutral experiences.
- Conspiratorial thinking about a future in which consumers are 'forced' to eat bugs are making the rounds on the internet. However, it is not clear by which proportion of the population these beliefs are held.

Insects are for those with a taste

- Men, younger consumers, individuals with higher education, those with adventurous taste, consumers who are open to reducing their meat consumption, and those concerned with health and sustainability show more openness to trying insect-based foods.
- Northern Europeans are more interested than Central Europeans, while urban dwellers are more open to insect-based foods than those living in smaller cities or the countryside.



Strategies for increasing demand:

- Focus on the subgroup of early adopters who are more open to trying insect-based foods and slowly introduce this food to the rest of the market. This will likely be a more effective strategy than trying to appeal to a broad range of consumers.
- For insects to be more interesting to European consumers, they will need to be incorporated into familiar food products that fit within the local cuisine. They will be more likely to be accepted if they are processed and unnoticeable in the food product.
- Visual presentation and terms used for insect products has a strong influence. Exposure has been found to be more influential in increasing acceptance than information campaigns.
- Chefs and food entrepreneurs can incorporate insects into gourmet dishes and experimenting with creative recipes to make them more palatable and appealing to European tastes. Consumers are less likely to prepare the products themselves, but may be more open to trying them if chefs prepare them.
- Naming the products in a different language can make the insects more appealing, just like it's better to call "snails" "escargot" it's better to call "crickets" "chapulin".

Extra resources:

[Insects as past and future food in entomophobic Europe](#)

[The Potential Future of Insects in the European Food System: A Systematic Review Based on the Consumer Point of View](#)

[Exploring the Future of Edible Insects in Europe](#)

[How many people are willing to eat insects?](#)

[Profiling consumers who are ready to adopt insects as a meat substitute in a Western society](#)

[Survey of consumer perceptions of alternative, or novel, sources of protein](#)

[Correlates of the willingness to consume insects: a meta-analysis](#)