Europe's precautionary principle hypocrisy: Allowing unevaluated bug-based food while banning safe GM food and crop chemicals

ince 2015, under pressure from an association of start-ups dedicated to insect farming (1), the European Commission has included several insects as novel foods in the positive list of foods. There were mealworms (*tenebrio molitor*), cockroaches (*bladottea*) and migratory locusts (*locusta migrans*) (2). These start-ups are very well regarded by the public authorities and

benefit greatly from the financing of banks and investors who give themselves a good ecological conscience (9,10,11 – not exhaustive).

In January 2023, a new decision of the commission has just fallen: to grant a 5-year monopoly to a Vietnamese company (Cricket One) for the export of farmed crickets (*acheta domesticus*) in the form of partially defatted powder to the European Union (3), (4).

It is not over since the FAO lists 1100 species of edible insects, 11 of which are already being studied.

Some potential risks

The EU admits that few studies have been done on the impact of eating crickets or other insects on health. However, we already know that the risks of allergy are real, especially for those who cannot stand crustaceans or nuts (2). Industrial products will bear the mention of the insect on the label, but how will we know if what is presented to us in school canteens and company canteens is free of it, and even in unscrupulous restaurateurs? If we also introduce it into animal feed, how will we know what we are buying? The mad cow scandal was not enough?

Let us first remember that we are not birds or frogs or lizards. If these animals eat insects, their digestive system is adapted to their diet. Not ours or the cattle. But the shell of insects is made up of chitin, which we have trouble digesting (5). We could "dechitinize" with organic solvents and release pollutants into nature.

In addition, chitin is carcinogenic, and more often carries parasites and fungi that will hardly improve the nutritional quality of the products in which it will be found, but on the contrary represent a significant risk to health. (7),(8).

Even worse, crickets contain a high level of cyanide, in the order of 5 mg/kg., which is above the lethal dose for humans (7). Of course the quantities ingested in a flour will be small but is it really necessary?

And this does not exclude the presence of traces of staphylococci, E. coli and some other very undesirable toxins.

Is provision made for veterinary checks on farms? Will we be able to deworm them before reducing them to powder? Who will make sure?

Where has the precautionary principle gone?

Curiously, the European Union, so quick to draw the precautionary principle every time it wants to kill an activity, accepts without reluctance to change the entire food chain in defiance of thousands of years of agricultural experience. All the risks that we have just outlined, and which are real, substantiated, are brushed aside. What for?

Before giving the endless list of ingredients in which we can find these insects, it is also worth asking whether replacing some cereal flour with powdered crickets is nutritionally relevant. These are animal proteins, but cereals have a completely different function in our body. They contain carbohydrates and are useful for their energy intake (6). They are essential to our diet. This addition of protein therefore has no other meaning than a commercial purpose, and a vicious way to gradually replace meat (4).

We banned GMOs in the name of the precautionary principle without even looking at whether they brought any benefits, such as reducing pesticides, without considering on a case-by-case basis, as should have been done, which would have been good for the environment and which should be discarded. We banned glyphosate in the name of the precautionary principle on the basis of a single study that was known to be biased, and which IARC validated without taking into account the many other studies saying exactly the opposite. We ban neonicotinoids in the name of the precautionary principle because they are suspected of killing bees, without trying to know the multiple causes of bee slaughter. Because you need a culprit.

But surreptitiously slipping insects into almost all agri-food products, as we were made to swallow cattle fed with animal meal, there, curiously, it does not even suffer the discussion.

This gives us the impression that the precautionary principle only works when the critics of an innovation are on the side of ecological activism.

This is perfectly logical since, in its very design, it is only used when there is absolutely no scientific evidence and even no logical cause to enforce it. When there is a real risk, it no longer applies. Therefore, is it not time to recover common sense, and to remove this concept to return to what we have always done in the past: to use the principle of prudence that we have abandoned, that is to say not to market products without having verified that they will not cause a disaster, and since we can not predict everything, Be vigilant, then, even if it means removing them very quickly if a problem occurs. We should have done it for meat-and-bone meal, we must do it for insects.

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Change of regime(s)?

The pretext found to replace meat proteins with insect proteins is ecology, because cattle farming emits greenhouse gases. It would also be a more "sustainable" diet since it requires less agricultural land

(1,2,4). It is true that breeding insects is much cheaper and requires little land. Somewhere money is always the sinews of war, even when it comes to Green Washing. Does this mean that the start-ups that gravitate around the European Commission have only found this way to open up a market, because they are unable to sell their production directly, especially via the network of organic stores?

In the long term, the ulterior motive would be to gradually get used to this addition of proteins in cereals and then substitute them for those we take in the form of meat (4).

In order to reassure us, it is explained to us that insects are already consumed in Africa and Asia (4). So be it? Should we therefore throw away what makes the success of French gastronomy? Even though we have just had the bread baguette inscribed on UNESCO's intangible heritage, are we going to degrade it with crickets or worms? In any case, the consumer must have reliable information, including on beef and sheepmeat. Indeed, herbivores do not have to be fed with animal protein. We should therefore demand a "no added insects" label as there is for gluten and GMOs.

List of products concerned:

- Breads, biscuits and breadsticks, cereal bars, biscuits, confectionery and chocolates
- Frozen and fresh prepared meals
- Dry pasta products
- Sauces
- Processed products made from potatoes, legumes and vegetables, pizzas and pasta products.
- Whey powder
- Meat substitutes
- Soups
- · Preparations based on maize flour
- · Nuts and oilseeds
- Fries
- Prepared meat
- Beer

Sources

- 1. <a href="https://ffpidi.fr/qui-sommes-nous#:~:text=The%20FFPIDI%20is%20the%20Federation,and%20international%20related%20to%20international%20in
- 2. https://ffpidi.fr/consommation-dinsecticides-en-europe-authorization-for-human-food-and-new-species-homologated-in-animal-nutrition
- 3. https://pitchbook.com/profiles/company/222019-03#overview
- 4. https://france.representation.ec.europa.eu/informations/nouveaux-aliments-le-grillon-domestique-autorise-la-consommation-dans-lue-2022-02-11 fr
- 5. https://myinsect.wordpress.com/2017/04/26/les-problemes-medicaux/
- 6. https://www.intercereales.com/quest-ce-quune-cereale
- 7. www.reponsesbio.com/la-farine-de-grillons-debarque-dans-les-preparations-bio/

- 8. www.ncbi.nlm.nih.gov/pmc/articles/PMC6613697/
- 9. https://www.lesechos.fr/industrie-services/conso-distribution/la-future-plus-grande-usine-dinsecticides-au-monde-obtient-un-nouveau-pret-du-credit-agricole-1151421
- 10. https://www.tresor.economie.gouv.fr/Articles/2022/09/23/proteines-a-base-d-insecticides-le-fonds-souverain-qatarien-mene-la-levee-de-250-million-euros-from-the-young-french-shoot-innovafeed
- 11. https://www.challenges.fr/start-up/ces-trois-pepites-de-la-french-tech-qui-font-leur-nid-dans-lelevage-dinsecticides_829665

[Editor's note: This article has been translated from French and edited for clarity.]

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