Why I Don't Support Eating Insects

by Brian Tomasik  
First written: 7 Apr. 2014; last update: 27 Jul. 2016

Summary

Entomophagy (eating insects for food) is sometimes proposed as an alternative to factory farming because it has lower environmental impact. But entomophagy is not necessarily more humane than factory farming of livestock all things considered, and along some dimensions it's actually worse, because it involves killing vastly more animals per unit of protein. Rather than promoting insect consumption, let's focus on plant-based meat substitutes.

Introduction

Entomophagy [has been proposed](https://en.wikipedia.org/wiki/Entomophagy) for environmental and food-security reasons, particularly in the developing world.

However, the idea of eating insects for food is becoming more mainstream in Western countries as well, particularly among trendsetting, ecologically conscious consumers.

Entomophagy is already widespread in many poor countries. In this piece I focus on proposals to introduce entomophagy to developed countries, because here eating insects rather than plant-based protein is a luxury, not a dietary necessity by the world's poor.

Why insect farming may cause more suffering than livestock farming

The number of insects required to produce a single meal is orders of magnitude higher than the number of chickens or especially cows required to produce that meal. Even if we give insects less moral weight per individual than bigger animals, when we sum over all the insects involved, the total suffering to produce a meal adds up to a big amount.[a](http://reducing-suffering.org/why-i-dont-support-eating-insects/#link_ajs-fn-id_1-72) I suspect one reason people don't mind eating insects as much as livestock is that people picture a single insect and think, "Meh, that little thing isn't very important. So I'm ok with eating insects." But they forget to add up all the insects that go into their food, which collectively look more like a big animal than a tiny one.

In addition, insects may inherently suffer more than large animals if they have higher mortality rates. I don't have good data on mortality rates on insect farms. Presumably mortality rates are lower than in the wild, because farmed insects theoretically have more food, fewer predators, less disease, etc. That said, some insect farmers may not monitor conditions very closely, so it's likely that sometimes the farmed insects fare poorly. "[A Bug's Life: Large-scale insect rearing in relation to animal welfare](http://venik.nl/site/wp-content/uploads/2013/06/Rapport-Large-scale-insect-rearing-in-relation-to-animal-welfare.pdf)," section 3.3.6, discusses instances of high mortality rates from various diseases.

Of course, wild insects probably have even higher mortality rates, and this is a main reason why [I'm concerned](http://www.utilitarian-essays.com/suffering-nature.html) about the vast amounts of insect suffering in nature. But even if farmed insects potentially live better lives than wild insects, this doesn't make it right to bring more of them into existence if their lives are still on average bad.

Living conditions

Some [argue](http://www.npr.org/blogs/13.7/2014/04/03/297853835/the-joys-and-ethics-of-insect-eating) that farmed insects enjoy pleasant lives: "Insects raised in farms live in teeming dark conditions (preferable environment), with ample and abundant food supply, no natural predators, no risk of outside diseases or parasites [...]." But this ignores the generally higher infant-mortality rates of insects, as well as the possibility that lots of insects might die from disease, cannibalism, etc.

In addition, these "luxurious" conditions could equally well be marketed to justify raising *any*farm animal, except maybe the part about dark conditions. Why don't factory farms embody this same dream of abundant food, no predators, limited risk of disease, and so on? It's because in practice, farms don't want to spend too much effort on maintenance or optimal welfare. It pays to cram animals into smaller spaces, allow disease and illness in order to cut costs, and so on. While some small-scale insect farms may be aiming to avoid this outcome, it's not clear that in the long run the entomophagy business wouldn't go in a similar direction as the livestock business. Maybe if the insect-eating demographic is more liberal/eco-conscious/etc., it would push for more humane raising conditions, but the same is true if that demographic were eating livestock. (Note that I don't necessarily think small, eco-conscious livestock farms are more humane, because their slaughter methods may be worse than at factory farms due to lack of pre-slaughter stunning.)

What about do-it-yourself insect farmers? It's hard to say for sure, but these might be worse than big farms. Lots of amateurs might try an insect farm in their basements and in one way or another cause immense suffering -- whether by forgetting to water the insects, or starving them, or not sealing the container and causing an insect infestation in the rest of the house. My family used to raise worms for composting, and the number of times we accidentally killed the whole worm batch in a gruesome way was more than one. The experience is [not uncommon](http://bulletin.swarthmore.edu/spring-2016-issue-iii-cxiii/conjurer-compost): "Louie tried her hand at vermicomposting, composting with earthworms, and 'totally killed them.'"

Slaughter

The Wikipedia article on "[Welfare of farmed insects](https://en.wikipedia.org/wiki/Welfare_of_farmed_insects)" has a helpful [section](https://en.wikipedia.org/wiki/Welfare_of_farmed_insects#Slaughter_methods) discussing how insects are slaughtered -- in developing countries, commercial farms, and by hobbyist insect eaters. I won't repeat that information here.

Many of the inhumane ways in which insects are killed involve heating -- boiling, frying, steaming, roasting, etc. This is probably extremely aversive. Insects [have](http://www.daviddarling.info/encyclopedia/I/insect_senses.html) heat [sensors](http://dx.doi.org/10.1016/S0092-8674(03)00272-1) and [display avoidance](http://dx.doi.org/10.1016/0091-3057(91)90102-8) in response to hot stimuli. In fact, even the simple *C. elegans* nematode (not an insect) avoids heat, and its escape behavior is modulated by opioids, just like in humans ("[The effect of opioids and their antagonists on the nocifensive response of*Caenorhabditis elegans* to noxious thermal stimuli](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2881580/)").

Environmental considerations

The best argument I can see for entomophagy would run as follows: Entomophagy might cause some people to switch from eating livestock to insects, which would slightly reduce climate change and other environmental dangers, which would ever-so-slightly enhance prospects for a [stable and cooperative future](http://utilitarian-essays.com/fermi-cooperation.html), and this is worth immense additional suffering in the short run.

Of course, one would have to explain why promoting entomophagy is more effective at this goal than promoting plant-based meat substitutes, which are already abundant and much less resisted on "ickiness" grounds. (Even *in vitro* meat is plausibly less "icky" than insects, and certainly regular plant-based meat products are.) In fact, I suspect the ickiness of entomophagy is part of the appeal for some people: It seems like a cool, counter-cultural thing to do, with much more impact to onlookers than just saying "I'm vegetarian." Of course, some entomophagy advocates do genuinely care about the cause on its merits, and I respect that stance.

One might argue that the additional grain fed to livestock requires killing massive numbers of insects on crop fields, so that the total insect death toll may be higher from eating bigger animals. This may be true, but it's not clear to me that crop cultivation is net bad for insects in the long run. In fact, growing crops, in some cases, [plausibly](http://www.utilitarian-essays.com/crop-cultivation-and-wild-animals.html) prevents more insect deaths than it causes. The strongest argument against crop cultivation has to do with the far future, not with wild-animal suffering in the short run.

Finally, it's not obvious how big the environmental gains are for do-it-yourself insect farmers. Growing insects requires a fair amount of work for a relatively small output, and growers may need to buy grains/fruits/vegetables to feed the insects, though food scraps can also contribute to home-raised insect diets. [More food needs](https://en.wikipedia.org/wiki/Efficiency_of_conversion) to be fed to insects than what comes out, and if that feed comes from cultivated crops, it's not true that entomophagy reduces crop cultivation relative to eating veg.

[This page](https://en.wikipedia.org/wiki/Escargot#Heliciculture) reports: "Farm-raised snails are typically fed a diet of ground cereals." [Another page](https://en.wikipedia.org/wiki/Heliciculture#Feeding) elaborates: "The diet may consist of 20% wheat bran while 80% is fruit and vegetable material. Some growers use oats, corn meal, soybean meal, or chicken mash." So it looks like farm-raised snails are fed a lot of human-edible food.

[One study](http://www.dailymail.co.uk/sciencetech/article-3043876/Phew-Insects-AREN-T-future-food-Crickets-nutritious-not-green-alternative-meat-researchers-claim.html) "found crickets that were fed a poultry-feed diet showed little improvement in protein conversion efficiency, compared to the industrial-scale production of broiler chickens, which are foul reared for their meat." And what about feeding food waste to insects? "99 per cent of crickets fed on food waste and diets composed largely of straw, died before reaching a harvestable size, proving that they can’t simply be fed waste to create cheap food." A 99% mortality rate of crickets is anything but humane.

Memetic impact

A number of animal activists see one of the worst consequences of meat production as being the indirect effects that animal farming has on society's attitudes toward animals in general. When people eat animals, cognitive dissonance makes it harder to simultaneously care about them ethically. A number of studies have explored this point, including "[Don't Mind Meat? The Denial of Mind to Animals Used for Human Consumption](http://psp.sagepub.com/content/38/2/247.abstract)."

The same arguments apply in the case of insects. If society is going to eventually take seriously the plight of quintillions of insects in nature, it would help if its citizens didn't have a vested interest in ignoring insects' [simpler but still morally important](http://www.utilitarian-essays.com/computations-i-care-about.html#graded-sentience) forms of [sentience](http://www.utilitarian-essays.com/insect-pain.html).

The entomophagy movement appears to be growing at a ferocious pace in 2014. The idea of eating insects has an edge to it that makes it an attractive story for news outlets and a tempting way for eco-minded consumers to show off (even though eating vegan would probably cause less environmental impact). I'm very worried where this situation will end up.

Appendix: Shellac

This discussion has moved [here](http://reducing-suffering.org/insect-suffering-silk-shellac-carmine-insect-products/#Shellac).

Footnotes

1. Some people feel that moral weight scales roughly linearly in brain size. If so, then we might expect the total*weighted* suffering of insects to be roughly on par with that of bigger animals per unit of meat output, assuming a similar brain-to-body-mass ratio for insects vis-à-vis bigger animals. In fact, there are some reasons to think the direct-suffering-per-output ratio is higher for insects:
   * Small animals like insects [have more brain per body mass](http://reducing-suffering.org/hallers-rule-and-sentience-per-unit-biomass/) than most large animals, [including humans](https://en.wikipedia.org/wiki/Brain-to-body_mass_ratio).
   * Large-animal meat may have more fat than insect meat, which implies more calories per kilogram.

On the flip side, the following factor suggests less suffering per unit output for insects:

* + Large farm animals live many times longer than farmed insects.

Personally [I disagree with](http://www.utilitarian-essays.com/brain-size.html) scaling moral weight linearly in brain size. I suggest something closer to a square-root scaling, which more strongly weighs against eating insects.  [(back)](http://reducing-suffering.org/why-i-dont-support-eating-insects/#back_ajs-fn-id_1-72)