

Will We All Be Eating Insects In 50 Years?

Each year, around [70 million people](#) are added to the world's population. If growth continues at this rate, by 2050 the population is expected to reach a whopping [9 billion](#). To feed all of those hungry mouths, we will need to produce almost twice as much food as we currently do. But that is going to be no mean feat—we already use 70% of agricultural land to raise livestock, oceans are overfished, environments are becoming polluted and climate change and disease threaten crop production. With almost [1 billion](#) people already chronically hungry, it's evident we need to buck up our ideas in order to reduce food waste and make food production more efficient. One possible solution? Insects. You might turn your nose up at the idea, but [entomophagy](#) (the consumption of insects) is a common practice that's been taking place for tens of thousands of years. Around [2 billion people](#) regularly eat insects as part of their diet, and over [1,900 species](#) are edible. The most commonly eaten bugs are beetles, caterpillars, bees, wasps and ants. The UN Food and Agriculture Organization recently produced an [in-depth report](#) about edible insects which is worth checking out if you're interested in the subject.

You've Been Eating Bugs For Years

If the idea of eating insects disgusts you, you might be surprised to find out that you already [regularly eat them](#). If you check out the [FDA's Defect Levels Handbook](#), you can see just how many buggies you could be eating on an everyday basis. Take beer for example—the acceptable limit of insect infestation in hops is 2,500 aphids per 10 grams. Canned fruit juices are allowed up to 1 maggot per 250 ml, curry powder is allowed up to 100 insect fragments (head, body, legs) per 25 grams and chopped dates are allowed up to 10 whole dead insects. The list goes on and on. Is this churning your stomach? It shouldn't, because you've been eating them for years and it hasn't bothered you.

Why Grubs?

So what's so good about insects? Well, they're a sustainable food source, they're nutritious and insect farming can provide jobs and income to people living in poor areas.

Insects Are Healthy

They might not look like much, but insects actually have a high fat, protein, vitamin, fiber and mineral content that is often comparable to fish or livestock. House crickets, for example, contain on average [205 g/kg protein](#); beef contains 256 g/kg. [Termites](#) are also surprisingly protein rich—one species found in Venezuela is 64% protein (and they taste like mint—trust me, I've eaten them). Some insects are even as much as [80% protein by weight](#).

Insects are also rich in essential amino acids and [omega-3 fatty acids](#); mealworms contain as much unsaturated omega-3 and six fatty acids as fish and even more than beef and pork. Some are also surprisingly high in iron; locusts contain up to [20 mg/100g](#) iron and [mopane caterpillars](#) contain a mighty 31 mg/100g, whereas beef only contains around 6 mg/100g.

Bugs Are Green

Consuming insects as opposed to livestock is more environmentally friendly. Insects are [cold-blooded](#) and thus require less energy to maintain their internal body temperature. This means they are very efficient at converting feed into edible body mass, unlike cattle. [Crickets](#) require around 2 kg of feed to produce 1 kg of meat, and around 80% is edible. Cattle, on the other hand, require 8 kg to produce the same amount of meat, but only 40% of the cow can be consumed. This means that [less land](#) needs to be dedicated to growing feed for insects than for livestock, reducing irrigation and pesticide use. Furthermore, the insects could even be used as livestock feed, for example replacing fishmeal. This would have the added advantage of increasing fish supplies available for humans to eat.

Insects also require significantly [less land and water](#) than traditionally farmed animals and also reproduce much more quickly. They also have shorter life spans and thus can be grown quickly and farmed in large quantities in small areas.

Additionally, insects produce a [fraction](#) of greenhouse gases such as methane and ammonia when compared with other livestock, particularly cattle. Furthermore, they can consume [animal waste](#) or plants that people and livestock cannot. This means that they don't compete with the human food supply and can even help reduce environmental contamination. It's also thought that insects are less likely to transmit zoonotic infections to humans when compared with mammals and birds.

Economic And Livelihood Benefits

Gathering, rearing, processing and selling insects can offer important [livelihood opportunities](#) for poor individuals living in developing countries. Not only will these activities improve their diets, but they can also offer employment and generate cash income through the sale of the produce. It also doesn't require a lot of experience or sophisticated equipment, meaning many individuals can participate in these activities including women and those living in rural or urban areas that are lacking in available land.

How Do They Taste?

I haven't eaten many insects, but the ones I have tried have been surprisingly tasty. I tried some termites in Africa and was surprised to find that they have a pleasant minty flavor. I

also tried grasshoppers in Mexico that had been roasted in garlic and chili. Once I got over the idea, I quite enjoyed them and gobbled down a few on a long bus journey.

According to [National Geographic](#), while stinkbugs may have a foul odor, they actually taste like apples. Red agave worms are meant to be spicy, and tree worms supposedly taste a bit like pork rind.

[Yummly](#) have a great article describing some of the unexpected flavors of edible bugs. For example, Sago Grubs that are eaten across Southeast Asia taste like bacon. If you fancy trying them raw, they recommend removing the head as they have sharp pincers that are not afraid to give you a little nip.

This may be a little too far for some people, but if you fancy trying scorpions in China (don't worry, cooking them destroys their venom), they have a slight fishy taste. I'm not sure you could convince me with this one, but apparently tarantulas (which you can find cooked up in Cambodia and Venezuela) sometimes taste like crab or shrimp, but others have reported they taste a little like chicken. Believe it or not, the disgusting looking giant water bug is said to taste like salted banana or melon.

Insects might not be for everyone, but they could be a valuable asset to global food security. They're sustainable, green, nutritious and could help people out of poverty. Plus, if you fancy bagging yourself a cheeky [\\$4.32 million](#), the European Commission are offering this very generous prize to the group that comes up with the best idea for developing insects as a popular food.

Chocolate covered caterpillars, anyone?