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FOOD

Is it really okay to eat insects for a source of protein?

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Includes correction

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**The question**

Lately I have read that insects are becoming a new trendy high-protein food. How healthy is it to eat insects? What is the best way to get over the “gross” factor?

**The answer**

Eating insects for protein isn’t in vogue right now – at least not in North America – but a growing number of experts contend we will need to rethink our aversion to insects-as-food in order to feed a burgeoning global population. As such, there’s a movement to get bugs such as crickets, mealworms and caterpillars accepted onto our Western dinner plates just as they are in many developing countries.

The United Nations Food and Agriculture Organization fuelled the campaign in May, 2013, when it published Edible Insects: Future Prospects for Food and Feed Security. The 185-page report argues we should all be eating more insects as a means of feeding the estimated nine billion people who will live on Earth in 2050.

Insects are surprisingly nutritious. They’re exceptional sources of protein and supply all nine essential amino acids that the body can’t make on its own. Ounce for ounce, many insects deliver just as much protein as beef and some species provide even more.

Many bugs are also high in B vitamins, calcium, magnesium, iron, zinc and alpha linolenic acid, an omega-3 fatty acid. Unlike meat, insects are ingested whole (even when ground as flour). That means you’re eating nutrient-rich exoskeletons and organs along with protein-packed muscle.

Eating insects is good for the environment too. Insects require less feed, less space and a fraction of the water used to raise beef cattle. As UBC Land and Food Systems researcher Yasmin Akhtar told me: “Crickets require 12 times less feed and 13 times less water than cattle to produce the same amount of edible protein.” Insects also emit far fewer greenhouse gases than livestock do.

Eating insects – a practice called entomophagy – is not new. Insects have been a food source for people for tens of thousands of years. Today, it’s estimated that as many as 1,900 species of insects are considered dietary staples or delicacies by two billion people around the world.

Chapulines, a species of grasshopper, are eaten roasted and seasoned with lime juice and garlic or served with guacamole in southern Mexico. In South America and Africa, termites are enjoyed fried, sundried or steamed in banana leaves. And in Thailand, fried crickets are served with cold beer as a cocktail snack.

If the thought of eating insects triggers a gag reflex, you might just have to try them once to overcome the “yuck” factor. In blind tastings done by researchers, most people enjoy the taste and texture of insects.

A 2014 Belgian study found that, among 189 adults who tasted baked crickets and mealworms, the vast majority said they’d eat insects again. Another study from Wageningen University in the Netherlands found that, after tasting a pure-beef meatball and another with a 50-50 mix of ground beef and ground mealworm, most people preferred the one made with insects.

Full disclosure: I have never purposely eaten an insect. But I am willing to give edible bugs a try. They’re said to have a nutty flavour, especially when roasted. Crickets, I’m told, taste a bit like shrimp and, when they’re dry-roasted, like sunflower seeds. Ants are crunchy and slightly sour.

I won’t, however, be harvesting insects from my backyard garden. I don’t have a clue which ones are edible and which ones are poisonous. Instead, I’ll turn to suppliers that have vetted their edible insects as safe (and tasty).

Next Millennium Farms is the only farm in Canada – and the largest one in North America – that breeds, raises and processes insects for human consumption. It also supplies insects to the majority of U.S. and international companies producing insect-protein powders and energy bars made from cricket flour.

Next Millennium’s online store sells 227-gram bags of whole roasted crickets, superworms and mealworms. Whole insects can be added to salads, stir-fries, stews and casseroles or eaten as a healthy snack. The company also sells packets of seasoned crickets and mealworms (barbecued, honey mustard, Moroccan, sea salt and pepper) as savoury snacks or crunchy salad toppings.

If you’re squeamish about eating a whole insect with legs and antennae, you might find it easier to use insect flours in baking. Cricket and mealworm flours are available for making muffins, cupcakes, pancakes and waffles. You’ll even find a recipe for Banana Cricket Bread on Next Millennium’s website.

You can also add cricket and mealworm powder to protein shakes. If you live in British Columbia, Alberta or Ontario, you will also find Next Millennium’s products in some natural food stores.

Or you can order protein bars made from cricket flour from U.S. online suppliers (Chapul bars and Exo bars).

Still think eating bugs is disgusting?

What seems more disgusting to me are the artificial dyes and colours, hormone and antibiotic residues, toxic chemicals and refined sugars that permeate so much of our food supply. Perhaps it’s time to shift our thinking and give crickets – or caterpillars, for that matter – a try.

**Bug protein by the numbers**

The protein content of insects varies by species, by what they feed on (e.g., vegetables, grains or waste) and by their stage of development. Here, a rabble of insects with their grams of protein per 100-gram serving, raw:

Caterpillar: 10 to 28

Crickets: 8 to 25

Grasshopper, adult: 13 to 28

Grasshopper (chapulines, Mexico): 35 to 48

Red ants: 14

Termites: 13 to 28

Yellow mealworm: 14 to 25

Compare that with conventional protein sources:

Beef tenderloin: 22

Chicken breast: 22

Salmon: 20

*Source: United Nations Food and Agriculture Organization, University of Iowa and Canadian Nutrient File*

*Editor's note:* *Insects have an exoskeleton made of chitin, a different material than found in bones. Incorrect information appeared in the original version of this article.*

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