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What does the insect industry want? A cricket in every pot.

By Rachel Feltman
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When the North American Edible Insect Coalition had its first meeting, in Detroit in May, many observers speculated that the newly formed group of cricket-chomping enthusiasts was set to swarm Washington. Several news outlets reported that insects, which aren't explicitly listed on the Food and Drug Administration's registry of foods recognized as safe, would soon have lobbyists fighting to put them there.

It's a nice story: The plucky little guys who had spent years trying to persuade their compatriots to get over the ick factor and turn to insects for protein had grown enough to make their case to the FDA.

But as the group of 30 or so organizations prepared this fall to elect a board of directors (results to be announced early next year), members said they'd stopped worrying so much about the FDA.

"We do not foresee a need to do a lot of lobbying," says Robert Nathan Allen, president of a not-for-profit called Little Herds. Allen says that cricket farmers don't need to take on the agency or the U.S. Department of Agriculture.

He and his fellow entomophages initially thought they would need to get crickets and other bugs added to the FDA's "generally recognized as safe" list, where it condones the use of substances from acetic acid to zinc sulfate. The voluntary designation tells consumers that the agency considers something safe to eat.

But crickets aren't a new, untested ingredient, and as far as the government is concerned, they're just a food.

"The FDA requires that the food must be clean and wholesome — free from filth, pathogens, toxins — must have been produced, packaged, stored and transported under sanitary conditions, and must be properly labeled," according to Megan McSeveney, an FDA spokeswoman. "Food must be produced in accordance with Current Good Manufacturing Practice regulations for manufacturing, packing, or holding human food."

As far as labeling goes, the FDA does have a specific request: It wants the industry to note that people with shellfish allergies might react to chitinous cuisine.

"There is a growing body of scientific literature that people who are allergic to shellfish may also be allergic to insects," McSeveney says.

Overall, however, the process of producing insect foodstuffs seems to be fairly straightforward for the industry.

That doesn't mean that getting crickets on home shelves will be easy. Its main mission, the coalition says, is to educate potential consumers, do research and establish best practices for production, packaging and the palate. Because food suppliers and consumers are less familiar with crickets than with beef, the North American Edible Insect Coalition will likely have to push for more-explicit farming and production guidelines to protect and reassure the public — essentially putting the industry in the odd position of seeking more oversight.

Consumers will want to be confident that regulators know what to look for when inspecting insect production lines, and they'll need to be taught how to properly prepare the insects they buy. By educating food companies and the FDA, the group says, it can put voluntary standards and certifications in place that can help make bugs supermarket staples.

For decades, crickets and other insects have been raised on farms as bait for anglers and feed for pet reptiles. It's only in recent years that demand has surged for insects bred and farmed to human food standards in the United States.

There may be few hurdles preventing Americans from chowing down on cricket tacos and mealworm-flour-filled cookies, but wrestling with the feds may be easier than charming U.S. consumers. And it doesn't matter that we're behind the rest of the world.

The Food and Agriculture Organization (FAO) of the United Nations estimates that some 2 billion people regularly practice entomophagy, or eating bugs.

Among the world's most commonly eaten bugs, the FAO says, are beetles, caterpillars, bees, wasps and ants. Add to that grasshoppers, locusts and crickets.

"I initially got interested in eating bugs when I went to Thailand in 2006," says Kevin Bachhuber, founder of Big Cricket Farms, which originated in Youngstown, Ohio, but is looking for a new home after water supply problems.

The FAO reported more than 20,000 insect farming enterprises in Thailand as of 2013, when the organization published its most recent thorough report on the benefits of the practice. "I was like, 'This is frickin' delicious,' " Bachhuber recalls. Many enthusiasts describe crickets, for example, as tasting like roasted seeds or nuts, slightly earthy with a delectable umami flavor. "But when I came home and was like, 'Hey, everyone, we should eat bugs,' they were like, 'Ha-ha, we have a functioning economy, no way!' "

But Bachhuber and other entomophagy advocates see plenty of reasons to talk Americans into loving bugs: Insects take up much less space than most livestock and pack a powerful protein and micronutrient punch into a small, low-calorie package. They're brilliant energy converters, providing more than 10 times as much edible protein from a kilogram of feed as a cow can. They don't emit troublesome levels of methane as cows do, and it takes just a single gallon of water to raise a pound of cricket protein — compared with 500 gallons for a pound of chicken and 2,000 for a pound of beef. In theory, if the Western world shifted at least some of its meat needs to tinier herds, we could shrink the land area of our farms as well as the resulting environmental footprint.

In the FAO's 2013 report on insects as food, the organization trumpeted them as an answer to the world's growing food insecurity woes. When the report was released, a small but passionate group of bug-loving entrepreneurs such as Bachhuber seized the opportunity to market such products as protein bars and Chirps (chips) full of cricket flour.

While some of these snacks and flours have made it to shelves of health-conscious national chains such as Whole Foods Market, they've all been the passion projects of small start-ups. You won't see the likes of Nestle or Kraft lining up to put out buggy products just yet.

Some food companies still worry that the ickiness issue will keep consumers from paying for cricket flour and mealworm butter. Most insect farms in North America focus on crickets, Allen speculates, because the "worm" in mealworm, no more difficult to farm and no less delicious, is a little harder to overcome.

Yet, farmers also say that discussions with large companies are turning from worries over taboos to frets over logistics.

"The conversation has matured and changed," says Jarrod Goldin, a chiropractor and co-founder of Entomo Farms, which transitioned to farming crickets for human consumption in 2014, after a decade of producing bugs for pet feed and other uses. "At first it was always about the ick factor, and then we started being able to talk about environmental benefits, and then it went to health benefits, and now we're hearing people say, 'Wow, it looks like a real business opportunity.' "

To meet FDA standards, Entomo Farms, based in Norwood, Ontario, started hiring "new technologists" to improve production and began collecting more empirical data on quality standards, Goldin says.

Bachhuber, who now focuses on bringing cricket farms up to human food standards, makes the conversion process sound pretty intuitive.

Farmers focus on transparency in their production, implementing policies on cleanliness and microbial testing. They retool their facilities to produce frozen insects, which are desirable for grounding into cricket flour and similar products, instead of shipping out the hearty, live bugs to pet stores.

The hardest part is figuring out aspects such as flavor profile, ensuring a consistent product in terms of taste. A lizard might not notice that one batch of crickets tastes different from another — or if it does, it probably won't say so. But humans are a bit pickier.

U.S. bug enthusiasts say there's only one thing standing between us and the food of the future: We need more bugs. Millions and millions more bugs.

"When we talk to some of these large food buyers, they're looking for maybe 300 tons a year," Bachhuber says. "That's 600,000 pounds of crickets, and there's about 1,000 crickets to a pound."

That amount, 600 million crickets a year, is about half of what West Monroe, La.-based Armstrong Cricket Farm — the first U.S. cricket farm, which Bachhuber says was just brought up to human food standards in recent weeks — produces for anglers and pet stores.

Entomo has grown from 5,000 square feet in 2014 to 60,000 square feet.

It holds more than 100 million crickets with a turnover rate of about six weeks from hatchling to shipment. ("I can't imagine we're not the largest livestock farm in America, thanks to how small our cattle are," Goldin joked.) But even 900 million crickets a year could barely meet the needs of one major buyer.

And just because crickets can fit into small spaces, it doesn't mean farming them can't get finicky. Equipment can break. Crickets can escape en masse.

"No one wants to be shipping millions of live crickets and have a semi-truck turn over," Bachhuber jokes.

And a wave of illness can knock out a farm's supply for weeks.

"If any given farm goes down, the others in the network need to be able to pick up that gap," Bachhuber says — and the infrastructure just isn't there yet.

Even once a large corporate buyer jumps in, Bachhuber notes, it would take years to develop a mainstream product.

The slow but steady increase in cricket farming could be just what entomophagy needs to thrive in the United States, according to the research of Jonas House, a doctoral candidate in human geography at the University of Sheffield in England. House's research suggests that companies need to stop focusing on the ick factor and invest in sustaining the bug supply.

In studying the consumption of insect-based products in the Netherlands, House has found that convincing people to try bugs once isn't enough to win them over.

"The criteria immediately turns to the same we use when buying conventional food products," he says. "Does it fit into my diet? Can I find it in shops? Can I afford it? And does it taste nice?"

Sushi, which had to win the hearts of American consumers from the top down — filtering from a few pricy restaurants all the way to grocery store shelves — didn't become popular immediately. It took decades to get the average American consumer to try sushi, but plenty of those curious early adopters loved it. As prices dropped and availability soared, there was a market waiting to devour budget versions of the formerly exotic dish.

House believes the same success can happen with insects. That means a more reliable, low-cost bug supply. But it also means developing products that put crickets front and center, instead of products that minimize the bug factor.

“It seems to me that to make it mainstream, you have to have some kind of insect food that is really distinctive and tastes good,” House says. “You need something for those early adopters that convinces them this is a great taste they can’t get anywhere else.”

It may be years before fried crickets and other critters are on the local grocery's salad bar, but an industry is abuzz with efforts to get them there.
Rachel Feltman wrote for The Post's Speaking of Science blog.

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