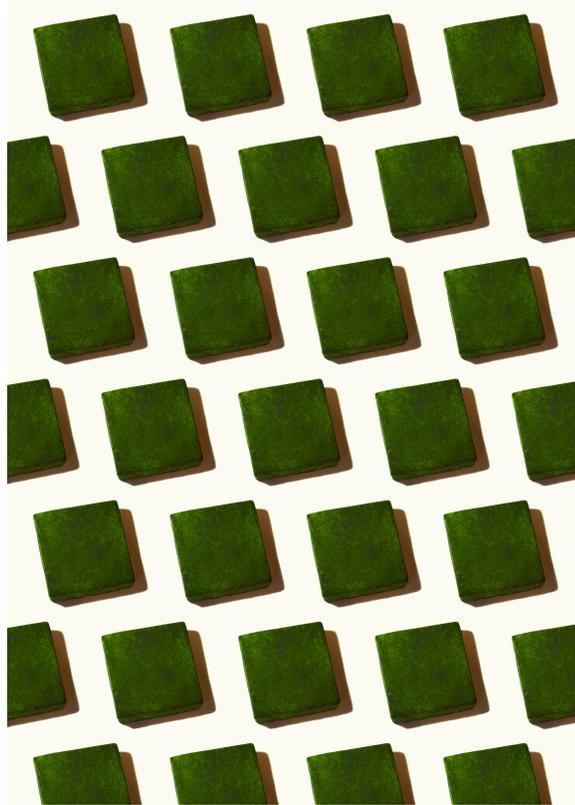


This Company is Making Chocolate Bars Out of Algae

By Eric Spitznagel
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Could Bars like these be the future of food?



Courtesy of non/food

Sean Raspet wants to change the way you think about “fake” food. His company, Nonfood, is devoted to creating and selling food products made entirely of algae. Yep, the green stuff. He got the idea while working as a flavorist-in-residence at Soylent—makers of liquid food substitutes—where he helped design meals-in-a-bottle like Soylent Nectar. (Raspet claims that Nectar tastes like Fruity Pebbles, though online critics have described it as “like vinyl, and latex, and the dust of my grandfather’s ashes.”)

Now, Raspet runs Nonfood along with co-founder and fellow artist **Lucy Chinen**. There’s only one item available for presale right now, a “Nonbar” made from algae protein. Next, Raspet plans on releasing a chocolate bar sans chocolate. “It has the look, consistency, and flavor of chocolate, which I’ve designed through artificial flavors,” he says.

We sat down with Raspet to talk about the future of food, why you can’t trust your own nose, and how to build the perfect apple.

Do you think we’re heading towards a future in which most of what we eat is synthetic or artificial? And if so, is that a good thing?

Well first of all, this division between natural and artificial, I think it's a blurry line. It doesn't have any meaning, from a scientific perspective, to say that something is artificial.

It doesn't? So according to science, there's no difference between an apple from a tree and one made in a lab?

Every flavor is just a collection of different molecules—whether it comes from a plant or it's an artificial flavor—that's put together in specific proportions that gives you a certain sensory effect. I'm very interested in breaking flavors down into their molecular components and looking at the underlying building blocks.

That sounds very depressing.
Why?

If it looks like an orange and it tastes like an orange but it's not really an orange, then everything is a lie and I must be living in a dystopian future where everybody wears matching grey jumpsuits.

I understand, sure. Part of that skepticism comes from large food companies creating products that don't necessarily have such great nutrition profiles, and they cover it up with artificial flavor. But a product like Soylent isn't doing that. There's nothing wrong with artificial flavors if you're still getting good nutrition.

Has working as a flavorist changed your relationship with food?

Sure. I consider food more of an intellectual experience, or something that's as much about curiosity as it is about deliciousness. I've been looking recently at how aroma relates to our perceptions of flavor. Roughly 80 percent of the flavor experience is aroma.

Can an aroma be deceptive?

Most of what we smell is deceptive. What we think we smell isn't always what we actually smell. For instance, there's a molecule called hexanal, which is a compound that creates the pleasant smell of cut grass.

It's a comforting, happy smell.

But it's really grass saying, "Help me!" It's a compound released by grass that's all about communicating distress.

Oh wow. So every time we smell a freshly cut lawn and smile, we're really smiling at the weeping from a grass massacre?

Right. And that odor attracts wasps, because long before lawn mowers, it was associated with caterpillars eating the grass, and the wasps would feed on the caterpillars. There's this whole complex world of chemical communication happening without us even realizing it.

What kind of synthetic food do you enjoy purely on an intellectual level? Maybe you can't stand the taste, but you're fascinated by what went into making it?

Cool Ranch Doritos are pretty interesting to me from an engineering perspective. I'm also fascinated by blue raspberry flavor.

Like in a Slurpee?

Yeah. I don't necessarily like the taste so much, but the concept, from an artistic perspective, is fascinating. The idea of being a little playful with the idea of nature, and having a raspberry flavor that's blue for some reason. *[Laughs.]*

It's ridiculous.

It doesn't even taste anything like raspberry! It's a completely different thing. That kind of playfulness is what I love about artificial flavors.

What's it like to go grocery shopping with you? Are you studying the ingredients on every box, going,

“Holy crap, they’re using *that*?” Does all that knowledge make you more paranoid, or less?

I guess since I’m pretty familiar with the production side, and most of the ingredients are familiar to me, I’m not really that scared of them. I know that they serve a purpose and they’re used within the appropriate limits. Just because something has a long name doesn’t necessarily make it bad.

Really? That’s the opposite of what we’re usually told.

If you were to list all of the chemical molecules found in an apple, there would be a lot of really long chemical words.

Like what?

Alpha-tocopherol, pyridoxal phosphate, pantothenic acid, tyrosine tryptophan, butyl butanoate, phloretin xyloglucoside, ethyl hexanoate. There’s a lot of stuff in an apple. If you were to set up that same standard we have with synthetic food to something that came off a tree, and we listed all the chemicals that were in it, the list would probably be a lot longer.

But can’t we trust the chemicals in an apple a little more than the chemicals in something synthetic?

With artificial flavors, you know every molecule that goes into the flavor. It’s all highly regulated and tested. But with a natural extract, we don’t always know. Plants are amazing at producing a variety of chemical and defense compounds. Until we breed it out of them, almonds produced cyanide. Potatoes can produce a carcinogen compound in their skin. I think there’s an argument to be made that between a natural extract and an artificial flavor, the artificial flavor is theoretically much healthier.

Do you think a time will come when you or another flavorist will create a synthetic food that’s as good or better than the real thing? Could you, for example, create an apple that’s so good, nobody would be able to tell the difference between the lab-created apple and a real apple?

With an apple, the main issue is texture and form. The science is pretty good with flavor overall. We’re already at a point where a skilled flavorist could make an artificially flavored apple juice that a consumer wouldn’t be able to distinguish from a “natural” apple juice. But with texture, that’s a whole other problem. There’s still a lot to be learned. It’s still as much an art as it is a science. But I think probably, within our lifetime, it’s definitely possible.

Do you ever feel like you’re playing god?

[Laughs.] No. I don’t think of it that way. I’m trying to expand the realm of what’s a possible experience. I think that’s what a lot of art is trying to do. I’m using the existing flavors in the world as a basis for looking at what’s possible. That’s what really intrigues me about this work. It’s not just mimicking flavors from nature but creating completely new flavors, something that nobody has ever tasted before. That’s the real goal.