

# Will A 3D Food Printer Be Your Next Cool Kitchen Tool?

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*By Teresa Meek*

You may have heard of 3D-printed shoes and furniture or even the most recent headline grabber, an entire 3D-printed house.

Now, 3D printing is coming to your kitchen — if you are willing to shell out anywhere from \$99 to \$5,000 for a machine that ups the cool factor of a cappuccino maker by several orders of magnitude.

But can you really “print” food? How does that work?





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Perhaps the easiest way to understand it is to know what a food printer is *not*.

“It’s not the ‘replicator’ from ‘Star Trek,’” says Lynette Kucsma, the CMO and co-founder of Barcelona-based Natural Machines, which makes a printer called the Foodini. “You don’t say, ‘I want salad,’ and it materializes in front of you.”

Instead, you combine the ingredients for each phase of a dish and place them in capsules, then the machine squirts them out in shapes and layers to form the pattern you have chosen. To make ravioli, for example, the Foodini prints out a thin layer of pastry from one capsule, then a layer of filling from another, then another layer of pastry. Each ravioli is made separately in under a minute, so a plate of 10 would take only 10 minutes to make. Foodini even has a [video](#) showing a pair of Spanish chefs trying out the machine to print rice pudding shaped like honeycombs.

The “printer” is essentially an assembly device that can make time consuming tasks like rolling dough or creating complex pastry shapes much faster and easier. It does the tedious work of putting the ingredients in order, but you still have to add the ingredients to the capsules and cook the assembled food after the printer is done, though Natural Machines is working on models that do the cooking, too.

And you often need to use another machine — a food processor — to achieve the right texture for the ingredients. Too watery, and the food mixture will drip through the food capsule; too chunky, and it will clog up the nozzle, Kucsma says.

Scientists at [Cornell Creative Machines Lab](#), who are also developing a food printer, say 3D printing could have a big impact on both fine dining and home cooking. According to the [USDA](#), the average American spends 33 minutes a day on food preparation. If food printing can evolve to the “set-and-forget” stage, the Cornell site says, the average person could save over 150 hours of food preparation time a year.

Some of the elaborate sugary concoctions the printers produce are clearly aimed at restaurant chefs, but the machine is also meant to be a time-saver for households that would otherwise throw a frozen pizza in the oven or a frozen dinner in the microwave.

In fact, Kucsma expects that someday, the food printer will be as ubiquitous as the microwave, and it will take less time to catch on than microwaves did since “nowadays, we’re a much more tech-savvy and adaptable society.”

“The point is to get people away from eating processed foods and start cooking again,” she says. “We’re a time-pressed society. Convenience food was invented in the ‘50s and is pre-packaged with preservative ingredients. A 3D printer is a mini-manufacturing plant in your house.”



Print out  
themed  
holiday cookies  
such as these

Halloween  
spiderweb  
cookies. (Photo  
courtesy of  
Natural  
Machines)

The Foodini is scheduled for release in October and is expected to sell for around \$1,300. Mass production is set to begin in January 2015.

Natural Machines and [Cornell University](#) aren't the only ones developing food printers. [3D Systems' Chef Jet](#) presented its model at January's Consumer Electronics Show (CES) in Las Vegas. It makes sugar sculptures in a rainbow of colors with flavors ranging from plain vanilla to mint, sour apple and watermelon. The company expects to put its machine on the market later this year at a price somewhere below \$5,000.

[3D Systems](#) is also looking beyond consumers to sell to big business. It recently announced a [joint venture](#) with [Hershey](#) to "explore and develop innovative opportunities for using 3D printing technology in creating edible foods, including confectionery treats."

An Australian company appropriately named [Chocabyte](#) has also developed a printer that makes custom chocolates. It, too, debuted at CES and 500 printers were quickly sold for \$99 each. The company plans to offer more in the last quarter of 2014 but hasn't specified the price.

For pastry chefs, who spend hours creating complicated sugary cake toppings and designs, the new printers could be a godsend.

"I feel like it's going to be a game changer," says Melissa Trimmer, lead pastry chef instructor at [Le Cordon Bleu College of Culinary Arts](#) in Chicago. Elaborate sugar and chocolate designs require such a high level of skill and time that many restaurants are backing away from them, she says.

"We could see that artistry come back, but rather than a chef, we'll see these machines creating it. Maybe now we'll have time to make that beautiful sugar showpiece for our client's wedding and the intricate garniture for plated desserts and still go to management meetings."

For home cooks, the picture is less clear. On the one hand, the machines offer the ability to quickly recreate dishes from a time when people could spend hours in the kitchen rolling out a lattice crust for an apple pie. On the other hand, a growing number of people miss the homespun quality of the old days and are turning off their TVs, computers and cell phones to don old-fashioned aprons and make everything from scratch.

They're not the "replicator," and whether they will become the next microwave remains to be seen, but the new 3D food printers boldly go where no kitchen machine has gone before, offering new levels of convenience, speed and intricacy to those willing to give them a try.

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#### Delta Business Travel Contributor

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