

Coffee technology: How to brew like a barista at home, using the latest gear

September 15 2017, by Richard Scheinin, The Mercury News

In this age of high-end coffee, every trip to the cafe is a theater experience. We watch the barista measure out the coffee on a digital scale and check the temperature of the water. We stare as the rivulet of steaming water is then poured from the swan-necked kettle, evenly coating the ground beans in a ritual that ends with the perfect cup of joe.

Is it even possible to repeat this ritual at home? Is the average Joe capable of brewing a first-class cup of java?

Of course, says Jeremy Kuempel, an M.I.T.-trained engineer who has devoted much of the last decade to the design and invention of new [coffee](#) technologies for the home. The epiphany happened the first time he brewed a cup in his dorm room: "I took a sip and it just was, 'Wow!' Why does this taste bigger and better?"

His company, Brisbane-based Blossom Coffee, works with Blue Bottle Coffee, Chromatic Coffee and other brands to create products that enhance what Kuempel calls "a whole new world of coffee at home."

We visited him in his lab - a classic, Silicon Valley garage, but crammed with kettles, brewers, filters, drippers, flow meters and inventions-in-the-making. There, he demonstrated four specific combinations of coffee-brewing gear, and, as this writer can attest, the coffee created in each set-up was excellent - as in, "I'd pay three bucks for that."

Setup No. 1: Easy Brewing for Busy Parents (About \$175)

If every morning is a scramble, Kuempel recommends the Ninja Coffee Bar Brewer. A counter-top coffee-making system, it's economically priced and requires neither brains nor skill to make a cup: "Set it and forget it," he says.

Just use high-quality coffee.

Kuempel demonstrates. He pops open a vacuum-sealed "coffee vault" made by La Colombe Coffee Roasters: The coffee inside is pre-ground, pre-measured and costs less than \$2.

He sets a paper filter in the Ninja's coffee dripper, pours in the [ground coffee](#), fills the glass carafe with water, and sets the dial, instructing the Ninja to make half a carafe. A moment later, we hear the rumble and aroma of brewing coffee as the Ninja measures out the proper amount of water, heated to about 205 degrees Fahrenheit.

Kuempel sniffs, as if assessing the bouquet of a fine wine. Then he sips and assesses: "Nice and hot and tastes pretty good - chocolatey, a lot of body, good balance. It's your classic cup of coffee, but a little bit sweeter, a little bit fresher, and a lot easier to brew."

Setup No. 2: The Traveler (About \$60)

Kuempel suggests this set-up for anyone who spends time on the road: "You can make an amazing cup of coffee absolutely anywhere - on the top of a mountain, or in your hotel room."

Here's the no-frills setup:

-a portable AeroPress Coffee Maker, essentially a plastic cylinder with a plunger that works much like a French press.

-a Prismo attachment (made by Fellow Products) with a metal coffee filter that fastens onto the base of the AeroPress.

-pre-packaged, organic, single-source Ethiopian coffee from Blue Bottle Coffee's "Perfectly Ground" assortment box, known as a Voyager Pack. ("It's the kind of coffee that I really nerd out on," Kuempel says.)

He attaches the Prismo - Blossom Coffee's technology, coming to market this fall - to the base of the Prismo. He pours the ground coffee into the AeroPress and sets it and the Prismo atop a stained M.I.T. coffee mug - the very mug from which he drank his first "eureka!" cup of coffee as an undergrad.

He boils the water and pours it into the AeroPress, measuring out less than a cup for an espresso-style brew. (A small amount of steaming water poured over a full package of ground coffee should induce powerfully concentrated flavors, as in espresso.)

Kuempel stirs it for 10 seconds, then lets it sit for a minute before pushing down the plunger. Now the coffee begins to drip through the hole at the base of the Prismo attachment and into the mug as expectations build: "Mmmm!" Kuempel says, practically moaning. "This is so juicy and sweet. It's like biting into a mango."

Setup No. 3 Entry-Level Pour Over (About \$170-\$185)

" 'What should I get for my house?' I get asked this question every day," Kuempel says. He recommends a Fellow Stagg Kettle along with a stainless steel hand grinder by Porlex. (The grinder costs about \$80; less durable, but also effective for about \$40, is a Hario Skerton hand grinder).

You will also need an Ozeri Pronto Digital Scale; a ceramic Blue Bottle

Dripper (co-designed by Blossom Coffee); flat-bottomed, brown paper coffee filters (they're 10 percent bamboo), also from Blue Bottle; and Chromatic Coffee's Gamut Espresso beans, which "offer a huge range of flavors to explore."

Kuempel grinds the coffee; the Porlex has ceramic burrs that make for an even grind. He weighs out 23 grams of ground beans on the scale.

He transfers the ground coffee to the filter, which has been set inside the ceramic dripper - made in a family-owned shop that Kuempel has visited in Arita, Japan. The water is ready; it has been heated to 205 degrees in the stovetop kettle, which has a thermometer on top.

Moving the kettle in concentric circles, Kuempel pours a quick, narrow stream of water over the ground coffee - just enough "to get it wet and blooming, to give it a start." He lets it sit for 45 seconds, then pours again - more concentric circles, "trying to hit all the grounds evenly to ensure an even extraction of flavors."

"Oh yeah," he says, tasting this latest mug. "You get some nice nuttiness with Gamut, and a little of those lemony essences that I like."

Setup No. 4: Weekend Warrior (About \$880)

This gear is for those willing to lavish time and expense in pursuit of the ultimate brew: "Really nice equipment," Kuempel comments. "You're going to be making coffee just like in a cafe."

He pours Chromatic Gamut beans into a Baratza Sette 270W grinder, a high-performance machine that "weighs the coffee as you grind it and gives you a great grind profile." He grinds 21 grams and shows off the results: a rich reddish brown, earthy.

He heats the water in a Stagg EKG+ kettle; it has a variable temperature control as well as Bluetooth capability. He moves the ground coffee to a high-quality, white paper filter made by Hario. That sits inside a Hario V60 glass dripper. That sits on top of a glass carafe.

Once again, Kuempel moves his kettle in concentric circles, emphasizing that each cup is an experiment. In fact, at every stage of the brewing process, there are variables to be played with: "You're learning to extract the nuance - how to be a pro."

He tastes the coffee: "Wow!"

If you're interested in brewing coffee at home, these products are recommended by Jeremy Kuempel. (Prices may vary, depending on where you purchase them.)

Setup No. 1

Ninja Coffee Bar Brewer, \$159

La Colombe Coffee Vault, \$14

Setup No. 2

AeroPress Coffee Maker, \$25

Prismo attachment, \$17.50

Blue Bottle Voyager Pack, \$17.50

Setup No. 3

Stagg Pour-Over Kettle, \$69

Ozeri Pronto digital food scale, \$15

Porlex hand grinder, \$53

Hario Skerton hand grinder, \$39

Blue Bottle Coffee Dripper, \$25

Blue Bottle Coffee Filters, \$5

Chromatic Coffee Co. Gamut Espresso, \$16

Setup No. 4

Stagg EKG+ Electric Pour-Over Kettle, \$179

Baratza Sette 270W grinder, \$499

Hario V60 Glass Coffee Dripper, \$37

Hario V60 paper filters, \$6

Acaia Scale - Pearl, \$140

Chromatic Coffee Co. Gamut Espresso, \$16

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Citation: Coffee technology: How to brew like a barista at home, using the latest gear (2017, September 15) retrieved 21 May 2024 from <https://phys.org/news/2017-09-coffee-technology-brew-barista-home.html>

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