Chew It Up, Spit It Out, Then Brew. Cheers!

THE PERUVIAN WAY Sam Calagione, left, and two professors chew corn to make chicha, a beer.

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Rehoboth Beach, Del.
SAM CALAGIONE, the founder of Dogfish Head Craft Brewed Ales, has a taste for exotic brews. There is Midas Touch, created from sediment found on drinking vessels in the tomb of King Midas in Turkey, and Chateau Jiahu, inspired by trace ingredients from a 9,000-year-old dig in China.

But his latest seemed extreme, even for an extreme brewer. He planned on making a batch of chicha, a traditional Latin American corn beer.

And in order to follow an authentic Peruvian method as closely as possible, the corn would be milled and moistened in the chicha maker’s mouth.

In other words, they spit in the beer.

“You need to convert the starches in the corn into fermentable sugars,” the always entertaining Mr. Calagione said by phone from his headquarters in Rehoboth Beach. “One way is through the malting process. But another way
— there are natural enzymes in human saliva and by chewing on corn, whether they understood the science of it, ancient brewers through trial and error learned that the natural enzymes in saliva would convert the starch in corn into sugar, so it would ferment. It may sound a little unsavory. …"

A little?

“The fact is that this step happens before you brew the beer, so it’s completely sterile,” he continued. “It’s boiled for over an hour.”

Won’t it take an awful lot of people to create a commercial beer?

“We’re going to have an archaeologist and historians and brewers sitting around and chewing 20 pounds of this purple Peruvian corn,” he said. “You kind of chew it in your mouth with your saliva, then push with your tongue to the front of your teeth so that you make these small cakes out of it, then lay them on flat pans and let them sit for 12 hours in the sun or room temperature. That’s when the enzymes are doing their work of converting the starches in that purple corn.”

Dogfish’s best selling beer is 60-Minute IPA, an India pale ale. But since its brewery opened in 1995, Dogfish has made a name for itself with storied, unknown brews. (Its slogan: “Off-centered stuff for off-centered people.”)

“Liquid time capsules,” Mr. Calagione sings.

Mr. Calagione hoped to make about 10 kegs of chicha, which would be available only in his Rehoboth Beach pub, Dogfish Head Brewings and Eats. He was confident that his team would be able to process the 20 pounds of corn his recipe required in about an hour.

On an August evening, at 6, I joined Mr. Calagione at his pub, a few blocks from the beach. The restaurant was packed with craft-beer devotees, many of whom had traveled from out of state. A large window between the restaurant bar and the small brewhouse was covered with newspaper.
“We want to keep it quiet,” Mr. Calagione said. “The last thing we want is some guy who came in from Ohio sitting there with his $18 crab cakes, sees a bunch of adults spitting in their hands.”

“Bunch of adults,” overstated it. Only two people had shown up: Dr. Patrick E. McGovern, the scientific director of the Biomolecular Archaeology Laboratory at the University of Pennsylvania, and Dr. Clark Erickson, an associate professor of anthropology at the University of Pennsylvania. Dr. McGovern was the force behind Midas Touch beer and has a book on ancient brewing, “Uncorking the Past,” coming out next month. Dr. Erickson studies agricultural systems of pre-Hispanic farmers in the Amazon region of Bolivia. He brought along a wooden goblet called a kero, a traditional drinking vessel in the Andes.

Neither man had actually seen anyone using the spit method to make chicha, but they’ve drunk a lot of chicha and they’re pretty sure the method is being used in South America.

The three men took their seats on upturned plastic pickle buckets in the brewhouse. Beside them was a large container of milled, dried Peruvian corn kernels, which despite their purple skin are a dusty yellow white inside.

As befitting a bold craftsman, Mr. Calagione took the first chomp, grabbing a small handful of corn and plopping it into his mouth. A small puff of flour escaped his lips. Mr. Calagione choked, concentrated and then chewed. After a few minutes, he removed a gravelly, purple lump from his mouth and put it on the tray. It resembled something a cat owner might be familiar with, if kitty litter came in purple.

The professors cautiously followed suit, taking smaller amounts. I did the same, in the time-honored journalistic practice of verifying the obvious: chewing milled, dried corn is like chewing uncooked oatmeal.

Mr. Calagione called for water, but drinking didn’t seem to help. “It doth thoak aw the moisthture out of your mawff,” Mr. Calagione said choking.
Mr. Erickson saw another problem: “Ideally, it would be half the size of the grind. In the Andes you use a rocker mill, mortar and pestle.”

Mr. Calagione sent to the kitchen for a Cuisinart and added water to the ground corn. The drone of the Cuisinart, combined with the chewers’ problems enunciating while dried meal sucked moisture from their mouths, made accuracy challenging, but I’m fairly sure Mr. Calagione, who did much of the chewing, said the following:

“I fwy to thew id foroughly to make thaw I haf enuff to weth it aw thwoo.”

“Would it b e bad if I thed we bit off maw than we could thew? Heh, heh.”

At the end of two hours, there were but two trays of salivated corn. We took a break for dinner in the pub.

At 9:30 p.m., it was back to the brew room. A weigh-in of the larger tray showed but 14 ounces of salivated corn.

“It’s dismal, I’m not going to lie to you,” Mr. Calagione said. “I’d say everybody is deeply, unpleasantly surprised at how labor intensive and palate fatiguing this stuff has turned out to be.”

Mr. Calagione said he would call in his staff to help.

“I’m going to be the Tom Sawyer of chicha production,” he said. “I’m going to have a whole lot of purple painted fences. I’m going to pay $20, make that $25 a person, to mass produce chicha.”

That brought in one more chewer — and from a brewing point of view, the meter was running. The two experts were now exhausted. Mr. Calagione, bent over his bowl, was stuffing larger handfuls of purple meal into his mouth. His hands and mouth were stained purple, purple meal was stuck on the outside of his mouth. He exhorted his chewers to keep chewing.

“I want at least the next fawty-five minutes of yaw best wouk,” he said.

“I can’t imagine how they ever did it,” Mr. McGovern said to Mr. Erickson.
“It’s the flour in your mouth,” Mr. Erickson said.

“Fwin waaaah!!!!,” Mr. Calagione shouted.

“What?” Mr. Erickson asked.

“It’s better if you drink water,” Mr. Calagione said. “I take a drink of water before every time I do it. It’s not as pummeling on my gag reflex.”

At 11:02, even Mr. Calagione had to call it quits.

“I feel like I just tongue kissed everyone in this room,” he said, getting up.

The salivated corn output for the evening was 7 pounds, significantly less than the 20 Mr. Calagione had planned. He had a sore in his mouth. He was also forced to reconsider the commercial possibilities of chicha.

“The 20 pounds that we were hoping for was going to go into a five-barrel batch,” Mr. Calagione said. “If we went to production, the smallest tank would be 200 barrels.” He did the math. “We’d need 40 times this much. We would have to chew 800 pounds of this.”

Nonetheless, the next day, the group continued with the brew, using unsalivated corn to make up the difference.

As the ingredients of the traditional recipe they were using included 190 pounds of barley and 150 pounds of yellow corn, as well as 30 pounds of strawberries, a cynic might consider the amount of salivated corn negligible in any arena other than marketing.

Ten days later, four bottles of chicha arrived in New York from the Dogfish brewery. The color was cloudy pink; the flavor was mild and vaguely fruity. But experts were required for a real test.

The musicians of Agua Clara, an Andean band whose members come from Peru, Chile, Ecuador and Japan (hey, it’s New York), were asked to weigh in. They were playing in Times Square on a hot day last week. They smiled
broadly as the cool chicha was poured. Then they tasted it and three made faces.

“This is not chicha,” Angel Marin (Ecuador) and two others said, almost simultaneously.

“It tastes like beer,” said Yanko Valdes (Chile).

“It’s supposed to be sweeter,” said Martin Estel (Peru). “It’s not bad though.”

Asked about the chewing and spitting method, Mr. Marin said that it was “old school — in the jungle.”

He also made a suggestion: “You want chicha, you should go to Queens, or any Peruvian or Chilean restaurant.”

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