

## **Hawaiian Chocolate – Factory Fresh**

By: Deborah Abrams Kaplan

When Bob and Pam Cooper took a Hawaiian vacation in 1996, they didn't foresee a future manually cutting down cacao pods, fermenting the smelly beans, and figuring out ways to manufacture chocolate from their small home.

After all, Bob, a country club manager living in Raleigh, NC knew nothing about making chocolate. But the Coopers did what many Hawaii vacationers dream about – they sold their mainland home, bought a cacao plantation in Kailua-Kona, Hawaii, and moved in 1997, with no jobs.

Cocoa is not the first agricultural product visitors think about when visiting the state known for growing pineapples, sugar, coffee beans and macadamia nuts. But Cooper says that on the Big Island alone, 21 farms grow cacao trees.

Under the label The Original Hawaiian Chocolate Factory, the Coopers now produce the only chocolate made with 100% domestically-grown U.S. beans – which are also 100% Hawaiian-grown beans.

With a small staff, the factory churns out more than 12,000 pounds of the delectable, brown stuff each year. Pam is vice president and chocolate wrapper. Bob is horticulturalist, cocoa bean processor and tour guide.

The Cooper's initial challenge was to learn the chocolate making process, but also to make it in a space Bob calls "the smallest factory in the world."

While Bob said that chocolate factories normally require 20,000 square feet to operate, they had available 1,152 square feet. A typical cocoa bean roaster costs \$1.2 million. "We use a coffee roaster that cost \$28,000," said Cooper. "We built the factory with ingenuity, bailing wire and duct tape."

Heeding advice from wine maker Michael Mondavi, the Coopers keeps the chocolate "in the genre of gourmet." So gourmet that their chocolate is used by chefs at Bradley Ogden's Las Vegas restaurant and Merriman's Restaurant on the Big Island.

During the tour, Bob talks quickly and excitedly, showing us cocoa pods, yellow in color and oblong in shape. The pods oddly grow on the tree's trunk, as well as the branches, taking 150 days to fully ripen. The pods must be cut off the tree before they germinate – good for growing trees, but bad for bean processing. Pods grow year round, and harvesting is done by hand every two weeks.

When Bob cuts the pod open, the white mucilage covering the beans leaks out. It's not a pretty sight. Even less pretty is the contents of a slatted, wooden box, where the beans ferment for five days. During the putrefaction process, the beans "sweat," attracting maggots and beetles. Not surprisingly, the cocoa beans stink when they come out.

The beans now contain 50 percent moisture, which must be reduced to seven percent during the 22-28 day outdoor drying, or they'll taste moldy.

After stepping into the cleaning room, Cooper explains that chocolate-making involves five steps: cleaning, roasting then winnowing the beans, and tempering and molding the chocolate.

In this small operation, Bob spends seven hours cleaning 1,140 pounds of beans, which will ultimately yield 3,000 pounds of chocolate. The Coopers took an exercise treadmill's conveyor belt, hard wiring it into the wall. He culls out the beans while conveying them.

Bob then measures the beans into 132 pound batches, transporting them via vacuum to the roaster to "lock the flavor." The beans continue developing flavor until they're roasted, which takes 28 minutes at 265 degrees. He does six to 10 roastings a day, and the beans exit steaming hot, smelling like chocolate.

Next it's to the custom-built "flinger" where the beans are flung against a metal plate, breaking their shells. A vibrating sieve winnows the shells from the pure chocolate nibs.

The chocolate is now officially "food," and Bob dons gloves. Time elapsed from starting to clean 1,140 pounds of beans, to winnowing? 28 hours.

The nibs head to the conche machine, which grinds them into chocolate liquor for two hours, before Bob "recipes it," adding sugar, cocoa butter, lecithin (which liquefies chocolate and preserves flavor), a pound of powdered Madagascar bourbon vanilla, and whole milk powder (for milk chocolate). He can't use liquid, including vanilla extract, because the liquid will curdle.

"This is a tough process," Bob said. "Acid is volatilizing, and my eyes burn. It's hot, at 115 degrees in the room and it's as loud as a jet engine." Bob takes three random samples during the next 12 hours, while the conche texturizes the chocolate.

After 14 hours in the conche machine, the chocolate is done, and it looks like loose fudge. He siphons it into a holding tank, surrounded by a 120 degree water jacket, and the tank mixes the chocolate every 20 minutes.

The next step is tempering, cooling down the chocolate. Once tempered, he heats a pumping apparatus for three hours so it's the same temperature as the chocolate.

They hand-pour the chocolate into plastic molds, using a vibrating table to compact it. The bars cool on trays, in a temperature and humidity-controlled, deodorized cooling room. If the room isn't 50-55% humid, the chocolate separates, turning white.

Now it's finally time to taste. I could describe the creamy, chocolaty taste, and the four times I snuck my hand in for additional samples, but I won't. After seeing the mucilage,

putrifying beans, and the machines conveying, vacuuming, roasting, flinging and conching, the end product seems miraculous.

The Coopers consider their chocolate a labor of love. With a quarter pound bar selling for \$10, the chocolate isn't cheap, but it is for sale at the end of the tour.

When people complain to Bob that his chocolate is pricey, he tells them "You don't begin to realize how much work goes into this." After touring his factory, I do.

**If you go:**

Original Hawaiian Chocolate Factory tour - 78-6772 Makenawai Street, Kailua-Kona, Hawaii. Tours by appointment only – call (808) 322-2626. Tour costs \$10 a person. For more information: [originalhawaiianchocolatefactory.com](http://originalhawaiianchocolatefactory.com)

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