Living La Vida Cocoa

KRYSTAL GABERT, Editor, Food Manufacturing

TCHO was founded in 2007 by Timothy Childs, founder of Cabaret Chocolates and a former engineer of vision systems used in NASA space shuttles. Co-founding the company along with Childs was Karl Bittong, a career chocolate maker with over 40 years of experience building factories and sourcing cacao. Located on Pier 17, just off San Francisco's Embarcadero roadway and near the city's famous Fisherman's Warf, TCHO is a unique addition to the area's bustling tourist spots.

Such a location has helped to recruit fans from around the globe. The TCHO plant — one of only about a dozen that manufactures chocolate in the U.S. — offers two daily tours of its operation, which bring in tourists looking for a sweet place to spend a vacation. To accommodate the tourists and walk-ins, TCHO has opened its only dedicated storefront at the front of its processing facility. In addition, neighborhood buzz has brought local restaurants and retailers through the doors, and TCHO's products can be found on menus and store shelves around the city.

Using his industry experience, Bittong, along with Matt Heckart, TCHO's Chief Engineer, was able to assemble TCHO's chocolate processing facility using new, used and refurbished equipment from around the world. The equipment has been retrofitted with cutting-edge communication, vision and process control systems to ensure that though the used equipment may be well-worn, the plant-wide system is nothing but state-of-the-art.

From Pod to Palate

TCHOSource is the company's program to ensure the quality of its beans. Through the program, TCHO sends modern chocolate-making labs, software and training materials to the farmers and cooperatives in remote regions of Africa and South America from which TCHO sources its beans. The program ensures that TCHO receives a consistent quality bean. It also helps the growers learn to produce more saleable beans, thus increasing profits for the mostly family farms that supply U.S. chocolate-makers.

Of the company's own laboratories, Brad Kintzer, TCHO's Chief Chocolate Maker, says, "We work really closely with our cacao farmers. We spend a lot of time installing similar laboratories like this one. It's why we use such a basic set up. We put a lot of emphasis on replicating this system in other parts of the world.

"In Ecuador," he continues, "you can set up a lab like this for relatively low cost, and farmers can learn how to make their own chocolate — we train them how to do that … The farmers end up learning a lot faster what we're looking for in terms of quality, and we can buy directly from them at a better price point."
TCHO has identified six unique flavor profiles naturally present in chocolate:

- Chocolatey.
- Fruity.
- Nutty.
- Citrusy.
- Earthy.
- Floral.

While the company is now exploring options for other flavors and inclusions, these six flavors are derived from complexities within the beans themselves. Through its network of growers, the company has been able to create four distinct chocolates encompassing the characteristics of each of the first four flavors above. Though TCHO is still searching for the perfect "earthy" and "floral" beans to complete its flavor wheel, "nutty" and "fruity" have already been introduced in their 2.0 incarnations.

Technology + Chocolate = TCHO

That 2.0 moniker is no accident. Jane Metcalfe and Louis Rossetto are, respectively, the President and Chief Executive Officer of TCHO. Before joining TCHO, the pair founded Wired magazine and its ancillary properties. The duo has brought the language and efficiencies of the tech world to this chocolate-making venture.

TCHO calls their product R&D “beta-testing.” Typically used by software and video game developers, the term is usually applied to a piece of software that is still a work-in-progress, but is far enough along in development that a select group of users may begin utilizing it and noting bugs, defects or undesirable quirks that can be modified by developers.

The chocolatey version of beta-testing is similar. Recipients on the beta list receive periodic shipments of sample chocolate flavors. The tasters will usually receive several versions of one flavor and are asked to score and comment on which items they prefer and why. TCHO’s chocolate-makers use the collected data to refine the company’s recipes. The beta-tasters become TCHO’s co-creators.

TCHO also made a splash earlier this year when it was announced that the company had been working on a proprietary iPhone application to control certain processes in the lab. With a few taps, the chocolate makers can control lights, melangers, PTZ cams and almost anything else in the laboratory — right from their living rooms. The app allows chocolate-makers to monitor lab equipment during times when it would be inconvenient to trudge into the office. It also means that a single-shift facility can operate around the clock.

While the company is devoted to innovation, its dedicated employees also know that, sometimes, hands-on is better. “I don’t feel comfortable leaving the factory controlled by a telephone,” says Rick Decost, Production Supervisor at TCHO. Though Decost won’t opt for an un-manned plant any time soon, he does see the benefit of round-the-clock lab monitoring that the app provides.

From Beans to Bars

After buying its beans at origin, TCHO roasts them in-country before shipping the resulting “cocoa liquor” to the Pier 17 facility. About twice per week, TCHO’s production crew loads the cocoa liquor, cocoa butter and sugar into a McIntyre refiner conche. On an average processing day, the facility can use as much as 700 pounds of sugar. The mixture is ground for anywhere from 12 to 30 hours, depending on the flavor profile. After being refined, the mixture may be transferred to other conches for further processing.

After the conching process is complete, the chocolate mixture is aerated to reduce astringency and moved to the filling line, where it is housed in storage tanks while it waits to be injected into chocolate molds. The molds pass through a heating tunnel, where they are heated to one degree below the temperature of the chocolate. Once the chocolate is deposited into the molds, it passes through a series of vibrators, which ensure even distribution of product into all the nooks and crannies of the mold. Any leftover chocolate is sent to another set of tanks, which keeps the product warm to avoid crystallization.

The final product is sent through a cooling tunnel for about 45 minutes. At the end of the tunnel, a plate is dropped on top of the mold, the plate and mold are turned over, and the mold is tapped, knocking the chocolate onto the plate. Then the chocolates are wrapped and packaged. TCHO products are all hand-packed in-house, in a designated packaging area near the back of the 30,000 square-foot facility. From this space, the company self-distributes all of its products. In addition to its San Francisco retail clients, TCHO sells to restaurants, pastry chefs and even Starbucks and Samuel Adams, which makes a chocolatey beer made from TCHO's cacao nibs.

The entire production system, from water filtration to conches to storage tanks is controlled by a PC-based control system that allows the operator to monitor and adjust levels as needed. Though demand determines the production schedule and the facility is sometimes open 24/7, TCHO typically sticks to a one-shift operating schedule.

What’s Ahead for TCHO

“TCHO came up with idea of the flavor wheel, which broke up the flavor of chocolate into six different flavors, and then we looked for a way to go out and source those flavors in a way that was ... ethically minded,” says Greta Miersma, Manager of Interactive Sales and Marketing at TCHO.

“TCHOSource is our version of beyond fair-trade sourcing,” she continues.

As the company’s ambassadors continue to peddle their socially responsible sweets,

food companies across the country are giving TCHO a try.

Decost notes that the packaging facility is bursting at the seams trying to keep up with demand and the company is exploring alternative, off-site packaging and distribution options. With time and space to grow, as well as a dedicated staff, savvy enough to roll with new sourcing, production and sales trends, TCHO's future is bright.

Source URL (retrieved on *12/19/2013 - 10:55pm*):
http://www.chem.info/articles/2012/01/living-la-vida-cocoa