

## COSTA RICA: A Micro-Revolution

BY ANDREW MILLER

COSTA RICA is celebrating 200 years of coffee production and, at the same time, experiencing a little revolution in production and quality that has excited the palates of coffee buyers and consumers alike. This revolution is taking place in the form of micro-lots of coffee, sometimes 50–100 bags, which have been meticulously tended, picked and processed by farmers with small plots of land.

Often using only specific varieties, like 100 percent villa sarchi, bourbon or geisha (as well as sometimes the careful processing of semi-washed or honeyed coffees), this new trend in production has turned seven regions into 70 micro-regions and allowed farmers that previously sold their cherries in bulk to add value to their coffee farms and empower themselves by being in charge of their own end product. Equally important, however, is that this change in farming styles has allowed small farmers to produce a unique coffee in the same fashion as the some of the world's best wineries—by using terrior and technology.

Costa Rica is a country of more than 50,000 coffee farmers, with 90 percent of them having small farms of less than five hectares. Clearly these farmers would not typically be able to own their own mills and drying patios but instead are members of a cooperative or do business with a mill in their region. Thus, traditional coffee processing in Costa Rica has meant that most small coffee farmers pick their own cherries during the day and truck them to a mill and sell them as ripe

cherries in the afternoon. The mills would pulp the cherries, sort them by ripeness or size, ferment them to remove the sugar, dry them and then classify them by quality for eventual sale to roasters. Costa Rica sends more than 60 percent of its coffee to specialty coffee roasters around the world.

### INNOVATIONS

Recent innovations in technology have made it possible for small farmers to keep their coffee and process it on their farms and ultimately sell it as a finished product for a much better price. The first step is a pulping machine that squeezes the cherries to remove the meat of the fruit from the seed. The micro-miller uses the same tool as used in large mills, but it's a single unit as opposed to the banks of machines you might see in a larger mill. When coffees are pulped in these machines, the seeds are covered in sugar. Removing this sugar is the next step and the biggest challenge in the wet-processing of coffee because if it is not removed or dried properly it will ferment and rot and ruin the flavor of the coffee.

This is the step that makes fully washed coffee, fully washed. The coffee is placed into a large tank of water, like a swimming pool and soaked for 12–24 hours depending upon the ambient temperature and humidity. Stewing in the pool breaks the sugars down, and releases them from the beans to bond with the water. Timing is critical here because if not fermented long enough, the beans will still be coated with sugar which can decay in later

stages of processing. If left too long, the decomposing sugars will taint the coffee to a degree that becomes irreparable, and the coffee will be considered fermented and ruined. The next step is to wash the beans with clean water and move them to the patios for drying in the sun.

Today's micro-millers often skip this fermenting stage and instead use a demuscilage machine to remove the sugars from the outside of the bean. The demuscilage machine uses high-pressured water and rotating plates to blast the mucilage from the outside of the bean. The coffee is then dried on the patio or possibly on raised beds of screen that allow the air to flow well around the drying seeds. Demuscilage machines use a fraction of the water of traditional mills. The larger mills use water to separate ripe from green cherries, they use water to move the coffee from the tank to the pulper, to the fermentation tanks and eventually through a final rinse. Cleaning the water to a standard accepted by the government is a daunting task for the traditional wet mill.

Costa Rica uses a measure of unit called a *fanega*, which is a box of about two bushels. A micro mill uses about two liters per fanega of cherry, while a traditional mill uses as much as 20. The micro-mill process requires no additional washing of the coffee and no water to move coffee from one place to another. It is this kind of control over processors that allows the farmers to enhance the flavor nuances and subtleties of coffees that were historically lost in blending at the larger mills.

### COSTA RICA'S SEDUCTIVE LITTLE HONEYED COFFEES

Costa Rican microlot farmers using the demucilage machine have the ability to adjust the machine to take off or leave on as much of the mucilage or "honey" as they like. The challenge of this process is that more honey that is left on the beans, the more attention they require. The drying coffee must be manipulated and turned to keep it from clumping and rotting; thus it can only be done on a small scale. To accomplish this, farmers will often use raised African beds where the coffee rests on a screen allowing more air flow to dry the coffee evenly, quicker and more uniformly.

Costa Rican coffees have traditionally been known as clean. Extremely and fastidiously clean coffee was the standard for specialty coffees out of Costa Rica. A number of years ago during the Cosecha de Oro competitions in Costa Rica it became

apparent that international jurors were interested in coffees that were outside the standard. They were giving high scores to coffees that had spice, fruit, cocoa or additional sweetness while the national cuppers from Costa Rica were tossing these coffees out as defective or more specifically, not clean.

Then in 2006, during the Cosecha de Oro competition, Juan Ramón Alvarado submitted coffees that received high scores during the cupping competition and were said to have good fruit and strawberry overtones. These coffees took first and second place and both turned out to be "Honeyed" coffees produced using a demucilage machine as opposed to fermenting it fully. The coffee was more complex, had more body and was sweeter.

This was the beginning of the sweet little honeyed coffees of Costa Rica.



A visual comparison of fully washed (top) and honeyed beans (bottom).

Arnoldo Leiva, general manager of The Coffee Source, a Costa Rican farming and export group, says that "the micromills have brought new opportunities for many growers in the country and he has seen several cases where the farmers have been able to establish a relationship with roasters and actually receive a better price for their coffee.

According to Fransisco Mena, the president of Exclusive Coffees, a Costa Rican coffee sourcing and export company, "The most positive thing is that the micro lots are creating boutique qualities

(85+ SCAA). These are family oriented, locally run small businesses that are generating income for themselves and their communities and becoming agri-entrepreneurs at the same time. The downside is that they don't have a market for it; that they invest sweat, time and talent and the roasters aren't aware."

These difficulties, according to Leiva, are as follows, "One of the problems we have seen is that becoming a miller requires more than just machinery; the business model is quite different from producing and requires a different financing structure.

The learning curve can be expensive in terms of coffee quality and business management and this trend can be misleading in that setting up a micromill is not necessarily the answer for everyone.

So three cheers for revolution. Fifteen years ago when we were buying coffees out of Costa Rica, our options were SHB or Tarrazu and that was it. The Costa Rican specialty coffee has since unraveled the seven distinct

regions and shown them to be unique and distinctive in cup and character. This micro lot revolution takes us one step further into specific farms, cultivars and processing capabilities. It also supports the specialty coffee roasters' trend of trying to understand the roots of agriculture and processing to further our knowledge of quality to help us innovate and improve what we can do with the world's best coffees and for this we applaud the microlot farmers of Costa Rica.

