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Variety is the Spice of Coffee

Geisha & Other Varietals

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MY HORSE slowly ascends the slippery terrain of one of the slopes of Volcan Baru, Panama. With each curve I round along the tiny track that's carved in this part of the mountain, I am presented with an astounding view over the lower valley that reaches out to the shining waters of the Pacific. The sun spreads a glowing afternoon warmth over the mountain. The terrain is lush, full of beautiful medium- to high-growth trees waving in the calm wind.

Through the mixed cover of shade trees, I see a number of colorful birds taking off, their feathers weaving a contrast against the light blue sky. My companion walks towards me, his hands filled with dirt, saying, "Look at this beautiful soil with its rich organic matter." Before I realize it, I am smelling the soil; clean, wet earth with a slightly perfumy aroma. I think to myself: if I were a coffee tree, this humus-rich earth is where I would want to grow.

To make a long story very short, I was trying to decide whether or not to purchase this small, pristine plot of land with rich soil and beautiful views. Needless to say, I already knew the answer: yes. But before I even bought the land, I was already asking the important question that many farmers around the world have to deal with during their career: Which variety should I plant?

In the years that I have been tasting coffee in producing countries, I have become intrigued by the influence of the coffee variety on the flavor profile of the bean. I vividly remember a tasting session with a well-known specialty coffee producer in Central America who had bet the future of his family estate on a hybrid coffee variety called "catimor." During this memorable tasting session, we performed a blind cupping

test of the diversity of coffee varieties from the family estate and we tasted the sweet, refreshing acidity of arabica typica, the clean citric lemon notes of the estate-grown caturra, the winery aftertaste of a bourbon and the disappointing bitter-sour aftertaste of the catimor.

Despite our disapproval of the flavor profile of the catimor variety, the estate grower continued the cultivation of the hybrid, which had been recommended for its high-yielding properties and disease resistance. Only three years after planting, the catimor trees already produced 50 percent more cherries per acre than the typica. Despite these production benefits, the estate grower ultimately reported that he was unable to sell the catimor at sustainable price levels. Finally, he decided to replace all of the catimor trees with caturra and typica.

The story of this coffee grower is not unique; most medium- to larger-sized coffee farmers continually analyze the pros and cons of the varieties they select for their farm. In this process, most farmers are influenced by regional traditions and of course by the availability of seeds or seedlings of new varieties. Generally, few farmers will experiment with varieties that have not been planted and tested in their own region. As a result, it may take many years before innovations with new, unknown varieties become accepted throughout a coffee-producing region or country. The coffee variety, with its profound impact on the flavor profile, can be a crucial parameter for quality differentiation and for the market success of a single producer or an entire coffee origin.

During the past few years, I have become more interested in coffee farming and through my travels around the world, I became very

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intrigued by the secrets and myths of the complex job of the grower. Ultimately, I have become convinced that the pursuit for exemplary coffee starts at the farm; this is where quality is created and at its essential core lies the choice for the coffee variety. Any coffee professional should be aware of the fact that choosing a variety is like balancing between two fundamental economic principles: quantity versus quality. As a result, varieties like mundo novo, catuai and catimor are more popular for their high-yielding properties, while varieties like typica, bourbon and caturra are renowned for their capacities to produce an exemplary cup.

In a country like Panama, at least a handful of varieties have been noted for their ability to produce good quality with efficient volumes of production. A number of areas in the Chiriqui province of Panama—Boquete, Volcan, Santa Clara and Piedra Candela—offer optimal conditions for the production of the finest-quality coffee beans: various unique microclimates, excellent precipitation, optimal variations between day and night temperatures and, last but not least, well-established know-how about the cultivation and processing of different coffee varieties.

In the past few years, Panama farmers “discovered” an exciting coffee variety that has been grown in Panama since the early 1960s: geisha. Just as specialty coffee cuppers have become thrilled by the flavor profile of this variety, many farmers in Panama have become mesmerized by its economic potential. In just a few years time, geisha has already developed the status of “Grand Queen,” while the scale of commercial cultivation and production still remains in the infancy stage. (As a side note, roasters beware! Many nurseries in Panama are filled with geisha seedlings, which will create a phenomenal increase in geisha cultivation within the next five years).

So, coming back to my initial question; Which variety should I plant? Typica, caturra, bourbon or maybe geisha? To answer this question, I began reviewing my options, both for production efficiency and for flavor profile.

Examples of Arabica Coffee Varieties & Their Cupping Profiles

■ Typica



Various names are used to identify this distinct coffee variety, known for the elongated oval shape of the bean. In Central America, I have also heard the names “arabigo” and “criollo.” Typica plants can have a somewhat conical shape and can reach heights of up to

15 feet. The lateral branches are generally tilted upwards at a 50–70 degree angle towards the vertical stem. Typica generally produces exemplary quality with a low production volume, and almost always produces a clean and resonant acidity which

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increases in intensity at higher elevations. The cup profile can be citric-lemony with floral notes and sweet lingering aftertaste.

■ Bourbon

Bourbon was first discovered on Reunion, an island near Madagascar, originally named Bourbon. Some experts claim that the bourbon variety is nothing more than a natural mutation of the typica variety, while others make the case that bourbon is a variety on its own, and I totally agree. After cupping many bourbon types grown in Africa and Latin America, I have concluded that there is something like the “bourbon flavor,” which can be summarized as having a bright acidity with a winery, sweet aftertaste. Bourbons cultivated at higher elevations almost always present floral aromatic properties. There are also some key differences between bourbon and typica plants and beans. The leaves of the bourbon tree are broad and the fruit is relatively small and dense, resulting in smaller, somewhat rounder beans than typica. The original bourbon varieties were called “French Mission,” while their later progenies from Kenya and Tanzania were indicated by letters or numbers, like SL28 and SL34.



■ Caturra

Caturra was first discovered in Brazil where it has been cultivated commercially since 1937, first in Minas Gerais, Brazil and later throughout Latin America. Caturra is a mutation of bourbon, and it has the ability to produce good quality with high production volumes. In order to maintain the production efficiency, the trees must be continually fertilized and pruned. The trees are relatively short with a thick vertical stem and many secondary branches. The leaves show many similarities with the bourbon leaves. The cup characteristics



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of caturra include well-pronounced acidity with often citric or lemony flavor notes, especially at higher elevations. Caturra is not always as sweet as typica or bourbon, but this can vary with the frequency and intensity of fertilization applications. The beans can show a neat, dense complexity with a centercut that seems to be embedded more into the inner layers of the bean.

■ Catuai

Catuai is a hybrid of the mundo novo and caturra varieties. Catuai can be planted at a higher density (more trees per acre) and will produce high yields, provided that the farmer fertilizes properly. One benefit of catuai is its resistance against strong winds and rain; the cherries do not easily fall off under those conditions. During the 2005/2006 harvest, some growers in Panama lost up to 30 percent of their crop as a result of strong rainfall. Most of these farmers did not grow the catuai variety but other, more susceptible varieties. In all my cupping trials, I have



not found a typical catuai flavor profile. However, I have noted that the sweetness of catuai beans can be influenced strongly by proper fertilization methods. Specifically the application of natural, organic compost can intensify sweetness levels and improve the flavor profile significantly.

■ Mundo Novo

Another natural hybrid between the typica and bourbon varieties. The benefits of mundo novo include high productivity and good resistance to diseases. The plant is resilient and does well in medium to high elevations. Unfortunately, I have never tasted an exemplary mundo novo coffee. The flavor profile often lacks sweetness and can present pronounced bitter undertones. Extensive nutrition and fertilization of the tree will allow the farmer to improve cup quality.

■ Maragogype

This varietal is named after a place called “Maragogype” in Bahia, Brazil. When my father started his specialty roastery in Holland in the mid-1970s, he carried maragogypes from at least three different countries. In general, the flavor profile of these unusually large beans is very mild with a subtle sweet acidity. Maragogype is not easy to roast—the beans must be roasted slow and light enough to develop the unique flavor profile, which is then best extracted with a vacuum pot or a genuine “Kona” coffee maker. Maragogype is a mutation of the typica variety and the production yield is very low.

■ Pacamara

A cousin of the maragogype, this variety is a cross between maragogype and pacas.

■ Pacas

A cross between caturra and bourbon; produces good yields and can perform very well at medium to higher elevations.

■ Catimor

A cross between a natural arabica-robusta hybrid from Timor and caturra. It was first created in Portugal in 1959. Benefits include resistance against coffee rust, high yields and better capabilities to withstand the effects of Coffee Berry Disease, which is especially feared in East Africa. The cup quality of catimor is quite distinct because of its sour acidity with a slightly astringent mouthfeel and often a somewhat salty aftertaste. In Latin America, the cultivation of catimor varieties was initially widely propagated by agronomists and agricultural “experts” who could not look beyond the narrow horizon of volume production. In the past 10

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years, they have all proven to be wrong in their advice, leaving many farmers behind who were unable to sell their catimor beans against sustainable prices.

■ Geisha

Last but not least, there is the earlier-mentioned geisha varietal, which I first tasted at the Best of Panama cupping competition in 2004. Our panel of judges had already tasted a first group of well-processed, lemony-citric Panamas and then, like a thunderbolt, came that magnificent geisha produced by Price Peterson. Without hesitation, I scored the coffee a 94, and the flavor left our panel of cuppers dazzled.

A tall, elegant tree with large fruits, geisha's benefits include resistance against rust. Some farmers in Panama have also reported that geisha can withstand fungi like "Ojo de Gallo" better than other varieties. The cupping profile of geisha produced in Panama includes a floral aroma with a persistent clean and exotic sweet aftertaste, supported by a resonant refreshing acidity, like in the tamarind fruit. The mouthfeel can be surprisingly smooth and silky.

Inspecting geisha coffee, we specifically notice the elongated, curvy and thin shape of the beans. Additionally, it seems like the centercut of geisha is drawn deeper into the bean, creating the impression that

we are dealing with a softer coffee type. During the roasting process, I have noticed that geisha very much behaves like Mocha Harrar or like the variety pacamara, and it has the tendency to roast too fast after the completion of the first crack. As a result, the roaster operator must roast geisha with moderate heat during the first stage of the roasting process.

Geisha Discoveries

During the past months, I have been able to do extensive research by interviewing various coffee breeding experts from Panama, Ethiopia and France.

The exotic Ethiopian variety was first introduced to Panama through CATIE, a renowned agronomic research institute in Costa Rica. But, how did geisha get there and where did it originate in Ethiopia? Jean-Pierre Labouisse, a French coffee breeding expert working for CIRAD (a well-known French research institute) was able to shed some light on the roots of geisha. "In 1931, geisha seeds were collected in a forest coffee area in Southwest Ethiopia," he said. "Several sites exist with a slightly different spelling, which is not unusual in Ethiopia. In this case, the original name is in the Amharic language and three similar names circulate which are all phonetic

interpretations: *Gesha* in the province of Kaffa, district of Kefa; *Gesha* in the province of Kaffa, district of Maji and Goldiya; and *Gecha* in the province of Illubabor, district of Mocha."

The geisha seeds were probably collected in bulk from different trees. The distribution of the seeds was handled through the British Consulate; they were exported in 1931 and 1932 to the Kitale Center in Kenya under the names Abyssinian and Geisha.

From Kenya, offspring seeds have been planted in the Kawanda station, Uganda and in the Lyamungu station, Tanzania in 1936. The geisha that was planted later in Panama, was first introduced to CATIE, Costa Rica in July 1953 as a progeny of the tree from Lyamungu, Tanzania. I have been told that the original geisha tree still exists in Lyamungu.

Geisha trees were first cultivated in Panama in the 1960s. The first seeds were introduced in 1963 by Don Pachi Serracin. His two sons, Mario and Francisco currently play an important role in the emerging geisha culture of Panama. Mario is a geisha expert and renowned agronomist and Francisco Serracin was the second farmer to present geisha at the Panama cupping competition. In the cupping event of 2005, he won second place, just behind the geisha of Price Peterson's Jaramillo Estate.

The flavor profile of the Panama geisha represents a unique complexity of a floral aroma with an exotic Ethiopian aftertaste, supported by the resonant refreshing acidity of the finest Panamanian coffee types. When geisha was first introduced to Panama, the growers planted the variety in between the other popular coffee varieties like typica, caturra and Catuai, thus creating a cocktail of varieties within the same farm. Currently, this practice is sometimes judged with skepticism by specialty buyers who prefer the concept of coffee growers planting one variety per plot.

However, this growing style may have played a role in the flavor of today's geisha. Dr. Mario Serracin, Panama's expert in organic coffee farming and a geisha

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connoisseur explains, “The Panama geisha most likely evolved from the original geisha as a result of cross-pollination, which is basically the natural process of coffee varieties creating cross-breeds.”

While discussing this theory during a dinner in Addis Abeba, I asked the Ethiopian breeding expert Dr. Bayetta Bellachew, of the Jimma Agricultural Research Center for his opinion. “The likelihood of cross-pollination is relatively low and dependant of many factors, like the proximity of the trees, the timing of the flowering cycle for each variety and of the overall genetic constitution of the coffee variety,” he said. “Traditionally, when we develop selective breeding programs for coffee varieties, I will always prefer not to utilize heterozygous plants, as they generally contain different genetic combinations within the same plant while homozygous plants have a fixed genetic structure.”

Bellachew explained that geisha is a heterozygous plant, which also explains an interesting phenomenon about geisha. Until now, coffee experts believed that there were two different types of geisha, the variety producing bronze tip leaves and the geisha producing green tip leaves. According to the explanation of Dr. Bayetta, geisha trees—due to their heterozygous properties—can change the color of their tip leaves from one generation to the next. Conclusion: there is only one geisha!

Ten Thousand Baby Geishas

While in Panama, I had the opportunity to visit the beautiful organic coffee farm “Hacienda Barbara,” owned by the Bay

Area Rogers Family (JBR Roasters) and managed by Mario Serracin. As Serracin guided me around the finca, I had the opportunity to compare the flavor of ripe coffee cherries from various varieties. It is interesting to notice how different coffee cherries can taste from one variety to the other. The flavor of this 100 percent organic geisha cherry was outstanding: intensely sweet notes of mango and papaya with a lingering perfumy floral finish; just like geisha tastes in the cup!

After that experience, I felt there was no going back—geisha was the varietal of choice for me—and just recently I was able to obtain ten thousand seedling geisha baby trees. Next summer, they will be planted on my Panama land, and thus will begin a chapter in the uncertain but exciting life of a new specialty coffee grower in search of a great cup profile.



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