



CJO1426 – Crown Jewel Kenya Organic Kiambu Muiri Estate Double Washed Peaberry

July 16, 2021 | [See This Coffee Online Here](#)

Overview

This is a traditional double washed peaberry coffee from Kiambu, Kenya, produced by Muiri Estate. It is certified organic.

The flavor profile is tart and citric, with strong notes of lemongrass, lime, and raspberry and cola-like sweetness.

Our roasters found the coffee takes well to hotter, faster profiles and its flavor was somewhat malleable depending on the specific approach.

When brewed our baristas noted high extraction percentages and somewhat slow drip speed, but found the cups bright and complex, and fun to dial in. This coffee will be served as a pour-over at The Crown.

Taste Analysis by Sandra Loofbourow

Juicy, elegant, and balanced, this peaberry is such a delight! On the cupping table it ranges from currant and cola sweetness to lemongrass and lemon verbena crispness. One of our roasts was much jammier than the other, indicating to me that there's opportunity to pull out juicy fruit sweetness, or opt for the more tea-like and classic profile. On pour-over it presents vanilla and maple sweetness, plenty of round malic and fruit acids in the form of grapes and delicate berries, all brightened by the presence of lemon and lime zest in the finish.

Source Analysis by Charlie Habegger



Kiambu county sits adjacent to Nairobi, Kenya’s capital city, and is a coffee powerhouse. Along with an extensive community of coffee mills, exporter warehouses and quality labs, and the Coffee Research Institute (near Ruiru Town, after which the disease-resistant hybrid is named), Kiambu is also home to many of Kenya’s largest and oldest coffee estates. Despite the vast number of smallholder farmers in Kenya the estate system persists -- and in many cases reflects -- both Kenya’s colonial origins and its current identity as a self-actualized producer of some of the world’s most obsessed-over profiles.

Coffee’s history in Kenya is astonishingly short compared to Ethiopia, its neighbor to the north, with the introduction of coffee occurring just before the turn of the 20th century at the hands of French missionaries who brought Bourbon-lineage coffee trees from nearby Tanzania, which were originally transplanted to the continental mainland from Réunion Island.

As the value of the cash crop grew in the European marketplace, the British settlers would force indigenous Africans out of the trade by outlawing coffee production outside their colonial estate network. This however did not stop the British from requiring unpaid, enslaved labor from the same people to further reduce their costs and boost output for the colony. It wouldn’t be until the years of conflict prior to Kenya’s independence, from 1952-1960, that indigenous Africans would be permitted to plant coffee—although for years afterward plantings were severely limited and none of the coffee produced by smallholders was permitted to be consumed. Since independence, the large estate holdings have evolved to reflect Kenya’s modern demographic: ownership can be single families, corporations, or groups of shareholders.

In the case of Muiri Estate, a 443-acre farm with 216 acres of planted coffee, it is a local family and management team. The estate is named after an African tree species, the [Prunus africana](#)—or “muiri” in the local Kikuyu language. Muiri has over 150,000 coffee trees in production and 94,000 old and new-growth trees for shade throughout the property.

Estates of this size with no mechanization for harvesting require massive amounts of labor, and Muiri has developed not only a cottage community for its staff but has also donated enough of its own land for 1,000 families to grow beans, a common household staple in Kenya. The property uses a dam to gather fresh water for fermentation, which is then re-used for moving cherry through the pulper before placing it in seepage pits for filtration.

Muiri is organic certified. This is not to be overlooked, particularly in Kenya whose delicate cultivars, smallholder-dominant system, ageing trees, and climate change leave very little room to reduce fertilizer and pesticide use, as a matter of survival for hundreds of thousands. Muiri’s formidable resources, however, are being used in the right direction. They have been certified since 2008 and continuing to raise and process beautiful coffees using wholly organic inputs and canopy management.

Grower:	Muiri Estate	Process:	"Double washed" Pulped, fermented, washed, soaked overnight, and dried on raised beds
Region:	Kiambu County, Kenya	Cultivar(s):	SL28, SL34, K7, and Ruiru 11
Altitude:	1537-1550 masl	Harvest:	October-December 2020



Green Analysis by Chris Kornman

We managed to secure Crown-Jewel-exclusivity for this small lot of Peaberry from Muiri Estate. The peaberry is a genetic anomaly in coffee affecting about 5% of an average harvest; it's caused by a single seed forming inside the coffee fruit, instead of the usual two.

In this lot, the peaberry has been sorted into pretty small sizes ranging 14-16. Along with characteristically dry moisture metrics for Kenyan coffees, we also see high density measurements. All of this points to good shelf stability as green, and the potential to really test the limits of your roaster's heating capabilities. Have fun!

In addition to the commonly seen Scott Labs selections SL28 and 34, and the hybrid Ruiru 11, Muiri Estate is also planted with K7. Somewhat common in Tanzania and Kenya, this Bourbon selection (also made by Scott Labs) was originally bred for rust resistance and is now commonly used in lower elevation farms in the region.

Screen Size	Percent	Density
>20	0.60%	693 g/L (free settled)
19	0.60%	734 g/L (Sinar)
18	1.41%	
17	5.54%	Total Moisture Content
16	30.48%	9.8% (Sinar)
15	44.49%	
14	16.33%	Water Activity
≤13	0.54%	0.519 @ 23.52 C (Rotronic)

Diedrich IR-5 Analysis by Candice Madison with Chris Kornman

The week that was, as they say! If it weren't for my esteemed colleague Chris, I would not be with you, dear reader, today. Having thrown my back out on a busy production day (ah, to be a roaster!), Chris very kindly offered to roast and analyze this week's offering from Kiambu county, Kenya. However, apart from being the Director of Education, he is also the Lab Manager, and also has more than enough of his own analyzing to do each week!

However, being the diligent friend, Chris roasted the first batch, just in case, and I managed to throw the second one in. I want to compare them here, as Chris was formerly a roaster and green buyer for Intelligentsia and has a wealth of experience to bring to the discussion. The first peaberry CJ offering this year, this coffee is a peaberry from the Muiri Estate. Looking at the metrics, we were both faced with small, dense, fairly dry beans and had to make our decisions from there.

To orient you, the graphics show Chris' roast in blue; my roast is in red. It made me laugh when I created the comparison graphic – experienced roasters who spend a lot of time together may end up in sync! Chris and I have similar philosophies on how to treat coffee in the roaster and, more importantly, what we like in our cup. I



shouldn't have been surprised by how similar our roasts looked – we'd have to wait to cup them to see what alchemy the roaster had thrown up.

Because the IR-5 can be 'sluggish', he took the opportunity to push the dry dense coffee as hard as possible at the beginning of the roast. To wit, Chris started his roast at around 95% gas, moving from 0% air at the beginning of the roast, to 100% air at the turning point. I decided to do something similar, but I left it all on the mat – 100% gas from the start, using 100% airflow until the middle of the second minute – still during the drying phase.

Moving through Chris' roast, we can see that, wanting to preserve the acidity, he chose to go hotter and faster through stage 2, whilst I wanted to accentuate the sugars, so moved the same one through stage 1, but made several gas changes before and at the advent of stage 2. This mirroring continued – due to those changes, I had an extra 30 seconds in stage 2, the same thirty seconds that Chris gifted himself for stage 1. Thus, we both achieved our goals, but in a similar time frame and with distinct results. Our curves met and matched each other until first crack, our gas changes being, again, similar in all but timing.

First crack was long and wet, although the moisture reading was low, I know that several chemical reactions that happen in coffee roasting produce moisture during first crack. I had a feeling that this might happen, so I effected the 'U'. If you've roasted with me before, you know this means that I turn the gas right down, just before first crack, only turning it back up after first crack has started rolling. This allows the humidity that is released during this exothermic stage to be wicked away by the higher airflow that I utilized as smoke abatement whilst helping to mitigate a crashing RoR through gas management.

Although it was effective, it wasn't effective enough, and roasting this coffee again, I would change the timing and duration of the 'U'. I won't state what that change would be, as I'd have to play with a batch or two. I shall report back with any findings!

So, in concluding our look at the actual roasting of the coffee and management of the beans in the drum, I would suggest hot, fast and decisive. Chris made 3 large gas changes, I made 6 small ones. I prefer his method here, and always do with my own roasting. As roasters, we strive to make the most effective gas changes, but the least amount possible. Consistency in roasting is key and one of the easiest ways to achieve that is by making significant changes and doing so as few times as possible.

With our curves looking so similar and our end temperatures being only 2 degrees different, I was curious to see what each roast's flavor profile would be. They were pleasantly different for two roasts that appeared similar. Chris, choosing a roast to highlight the bright acidity of the coffee, gave us a cup with a bright grapefruit zest and green apple acidity. The sweetness was that of white sugar, with a hint of candy corn that mellowed into molasses. The dominant flavor of blackcurrant was complemented by lemon, lime, green melon and navel orange. With myriad flavors such as those mentioned, the tea-like body that Chris had wanted from the roast helped to clarify and articulate the complex profile.

I knew from cupping the approval table that this coffee wasn't a big blousy Kenyan, but more the precise, abundant and bright cups that I also adored. I knew the danger of roasting this coffee could result in something far too tart, if not roasted to draw out as much of those sugars as possible. The first flavors to hit were a mix of black cherry and blackcurrant, with notes of Braeburn apple. Completing this purple note was the acidity of purple plum skins. Coupled with the latter, the acidity was also bolstered by citric notes of lemon and lime, as well as pink



grapefruit. The sweetness -- and there was lots of it -- came by way of marshmallow, dark chocolate and simple syrup. The cup was sweet, viscous and bright.

We had a lot of fun playing with this week's Crown Jewel and concluded that if you give this dense bean the speed and heat that it requires, you'll end up with great results. It gave us much to catch up with over the cupping table. I'm just really glad that we can, safely, do that together (at different tables) again!

Quest M3s Analysis by Evan Gilman

Unless otherwise noted, I follow a set standard of operations for all my Quest roasts. Generally, I'll allow the machine to warm up for 15 minutes until my environmental temperature reading is at least 250F, weigh out 200g batch size, and begin roasting when I've reached my desired charge temperature. [Read my initial post here](#) and my [updated post here](#).

I'm a bit late to the game on this Kenya Peaberry, but this means I got to reap the benefits of everyone else completing their analysis first! Candice and Chris' work on the Diedrich was very informative to how I roasted this coffee, and the green analytics were a great help, as always. For my own roast I attempted to take the middle path, both starting with a good push and attempting to add a little bit of the "U" Candice mentioned above (reducing heat application right before crack and introducing it again afterwards).

This coffee cracked very much later than other Kenyan coffees I've roasted, so keep this in mind when you calculate your desired post-crack development; you won't have much time to work with if you want to have a lower end temperature like I did. Another tricky turn: this coffee completely loses all its momentum after crack. If you choose to do the "U" on the Quest M3s or a similar small roaster, you might want to be quick about it, and keep just a touch of the heat going instead of completely removing heat application.

My charge temperature of 391F was pretty much as high as I go on the Quest M3s. I started like usual with full fan and amperage to the maximum (10A). I really wanted to push this coffee, but also realized that it has a very small screen size, and thus more surface area from which to lose moisture. To pull this coffee through the first stage (drying), I added fan to 3 at 265F / 3:05. Next, I reduced heat application to 7.5A at 275F / 3:20, and ramped up fan speed to full shortly afterwards at 300F / 3:50. The coffee finally began to slow its inexorable climb, and eventually mellowed out through the second stage, Maillard. To really keep a slow creep of progress on while still reducing the rate of rise evenly, I reduced heat further to 5A at 330F / 4:35, and 0A at 365F / 5:45 -- right before what I thought was first crack. But I was faked out by a few errant pops! First crack didn't occur until quite a bit later than usual, at 391F / 7:20, and I ramped heat back up to 5A at first crack since my rate of rise was really beginning to crash. This roast slid right into post-crack development with a very low rate of rise, and I dropped the batch as the rate of rise hit zero at 393F / 8:06.

Though I didn't feel great about my short post-crack development time, everything worked out quite well in the cup! Strawberry rhubarb pie filling, bright juicy lime, and pink grapefruit jelly candy came through super intensely in this cup. Upon cooling, the sweetness became more intense, but this cup didn't lose any of its bright, shiny characteristics. This is as close to drinking candy as I could imagine.



All that being said, I might have liked to see a bit more sugar development – there is *plenty* of organic acid in this coffee to play with. I also opted for a hot and fast roast, much like Chris, but I truly believe that nearly any reasonable approach would work with this stellar coffee. Don't be shy about applying heat, and you'll bring out even more of those heavy sugars in the final cup. This is a perfect coffee for filter drip, or a bright summer flash brewed iced coffee!

Ikawa Pro V3 Analysis by Nate Lumpkin

As of September 2020 we are running all Crown Jewel Analysis roasts on an Ikawa Pro V3, using the most recent app and firmware version on "closed loop" setting.

No big surprises here in the Ikawa roasts of this Organic Kenya Peaberry, except that this coffee had a late and very light sounding crack. On two of our profiles, this light first crack meant that the coffee spent very little time in development; however, the coffee tasted fantastic on the cupping table, and we're lucky to have the chance to serve this on bar at the Crown.

Our standard hot and fast profile, which is dialed for dense Kenyan coffees like this one, produced a roast that tasted great on the cupping table. We tasted notes of lemon bar, guava jelly, tamarind, orange creamsicle, and tomato jam, with a popping acidity and dense body. I also tasted a mild and sweet nuttiness like almond and a dark chocolate under note. Its aroma was incredibly sweet, like bubblegum, and we even tasted a note of cinnamon gum in the cup itself. This was complex and well-balanced and an easy stand-out among the roasts.

Our extended Maillard profile produced a cup with notes of fig, lemon, nectarine, and orange, with a heavy chocolate and fresh walnut quality that reminded me of Rocky Road ice cream. This was light and sweet, though its citric acidity fell out of balance as it cooled and ended up tasting a touch overwhelming. Our low air-flow profile had a distinct aroma of sundried tomato, which I also experienced in the cup, along with notes of orange marmalade, caramel, toffee, maple syrup, marshmallow, and dark chocolate. Surprisingly, this was a dense and syrupy cup, though we tasted a bitter finish. Altogether, I would recommend a high heat, faster profile, as these dense little beans really seem to soak it up.

You can download the profile to your Ikawa Pro app here:

Roast 1: [Crown Standard SR 1.0](#)

Roast 2: [Crown Maillard +30 SR 1.0](#)

Roast 3: [Crown 7m SR LowAF 2](#)

Brew Analysis by Colin Cahill

Having helped with some of the Ikawa sample roasts of these dense little peaberries, I was excited to get involved with the brew analysis. They had developed the loveliest, complex, fruity scent, and I wanted to try them on a few different brewers, selecting the Saint Anthony Industries C70, the Kalita Wave, and the Origami dripper. To



highlight the range of flavors and complexity of these beans, I focus my analysis on the C70 and the Kalita Wave — contrasting the conical and flat brew beds as well as that thicker Saint Anthony Industries Perfect Paper filters with the thinner Kalita Wave filter.

The C70 yielded a light and refined brew with bright fruity notes and lovely, soft cinnamon, jasmine, and nougat flavors in the aftertaste. Sweet with a fruity acidity, the C70 brew's dominant flavors include grapes (both concord and green), berries (especially blackberries), kiwi, and a soft lime. This was a lovely starting point for playing with this coffee, and while I was happy to sit sipping on this delicate, fruity brew, I was excited to see how it performed in a flatbed brewer.

Working with the same dosing, grind size, and pours, I watched as the brew on the Kalita Wave came through 25 seconds quicker while also extracting a lot more from the grounds. This brew really highlighted the acidity and sweetness of the beans, yielding a maple syrupy, toffee and lemon curd sugariness with a buttery body. We tasted notes of lemon, lime, hibiscus, cherry, and annatto. The Origami brewer yielded a similar body to the Kalita Wave, with similar extraction specs, and it really highlighted a peach note and a malic acid acidity, reminiscent of the mouthfeel of a tart granny smith apple. This is another bright, complex Crown Jewel that is fun to play with and I can't wait to get this on our pour-over bar.

Roast	Method	Grind (EK43)	Dose (g)	H2O (g)	Ratio	Bloom (g)	Bloom (s)	Total Brew Time	TDS	Ext%
Diedrich	C70	8.5	18	300	1:16.6	50	40	4:05	1.4	21.4
Diedrich	Kalita Wave	8.5	18	300	1:16.6	50	40	3:40	1.56	24.2