



CJ1335 Tanzania Ngorongoro Vohora Family Carbonic Maceration Crown Jewel

March 6, 2020 | [See This Coffee Online Here](#)



Intro by Chris Kornman

It's hard for me not to be super excited about this coffee. Neel Vohora and his family's farm and export operation have been steady suppliers for Royal for a few years now, and when this experimentally processed coffee came in last year for the first time it was really the icing on the cake.

There's a lot we could talk about here, but let's start with the processing: Carbonic maceration is a term lifted from the wine industry and it applies to the fermentation method. First, the coffee cherries are

siphoned to remove low-density "floaters," then added to a large barrel filled with clean water. The barrel is sealed with a one-way valve for off-gassing: the environment allows no new oxygen in (this is the "carbonic" environment). In traditional carbonic maceration in winemaking, grapes are fermented whole, without crushing. The technique yields fruity tasting wines that can be consumed soon after bottling. For coffee, this unique fermentation environment limits the populations of microbes and demonstrably changes the fermentation type.

The "maceration" or "microbial digestion" - basically fermentation - occurs at different rates in the layers in the barrel. The coffee at the bottom of the barrel will be lightly crushed and undergo a more traditional fermentation, whereas the intact cherries closer to the top ferment more slowly, inside the skin of the coffee fruit. After 5-7 days in the barrel, the water becomes filled with fermenting enzymes and byproducts and begins to foam out the valve. This is the indication for Neel to end fermentation, thereafter pulping the fruit and sending it straight to the drying tables.

I met Neel in Chicago years ago before visiting the farms with him for the first time in 2014. Neel is a third-generation Tanzanian of Indian heritage, and his family has been in the Tanzanian coffee business since the end of the second World War. The family export business based in Arusha has more than 60 years experience in the country.

Since 1971, the Vohoras have owned about 1000 acres of farmland on the southern exterior slopes of the Ngorongoro caldera near the town of Karatu in Tanzania's lush rift valley. The farms possess Rainforest Alliance certificate, and the family and their 50+ full-time employees on the farm have done a remarkable job of upkeep and preservation of natural beauty while also running a thriving coffee business. They are diversifying into macadamia, provide temporary housing for harvest labor, and even supply land on the farm for local smallholders to grow beans - a mutually beneficial crop as the legumes fix nitrogen in the soil, a critical step in a healthy cycle of crops.



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Neel's sister Kavita runs the dry mill, roasterie, and export business from Arusha, a two-hour drive away from the farms. Their father, Ajai, lives in nearby Nairobi, Kenya, and is still very much involved in the business of exporting coffee as well, and has been instrumental in maintaining the relationship. Kavita is a licenced Q-grader, a meticulous cupper and quality agent, a lively companion for a glass of wine, and a mother. She keeps a small army of pets around the office, including terriers and ducks. Neel, an excellent cook and vivacious host, is also a knowledgeable farmer with a persistent drive to experiment, has staffed the estate with experienced management. He's also fond of dogs and has a beautiful and rambunctious Rhodesian Ridgeback that stays on the farm.

This Carbonic Tanzania (we've taken to calling it "Carbi T" around here) coffee is just great, a lush and full cup brimming with sweetness and copious in viscosity. Flavors of ripe melon, sage, cola, and brown sugar erupt from the cup, followed by whispers of dried fruits. The naturally mellow acidity and full body make it an approachable cup, one that's easy to enjoy and hard to put down.

Grower:	The Vohora Family, Edelweiss/Ascona/Helgoland Estates.	Process:	Siphoned for floaters, then fermented in the whole cherry underwater for 5-7 days via carbonic maceration, then pulped and dried on raised beds.
Region:	Southern slopes of the Ngorongoro Caldera, Karatu District, Arusha Region, Tanzania	Cultivar:	Batian, Blue Mountain Typica, Bourbon, Kent, SL-28
Altitude:	1600 - 1850 masl	Harvest:	July - December 2019

Green Analysis by Chris Kornman

In typical fashion, this coffee arrived with moderate moisture content and low water activity, hallmarks of long drying periods in temperate weather on raised beds. Relatively low in density despite altitude and good cultivars, the coffee will likely present some unique challenges in the roaster, especially given its widely spread screen size and unique processing. The rewards, however, will be well worth the extra attention.

The coffee is reddish brown in appearance overall, tinted by the carbonic processing. You'll likely find the chaff to be darker in color than that of a washed coffee. There are a number of broken and chipped beans, generally not a huge problem, but because of the extended fermentation time these often appear with dark brown or black edges, not the same as a partial black defect, but similar in appearance. A few other physical flaws are present, none of which have shown to be a problem in the cup, but if precision dry milling is your fixation this might not be the coffee for you.

The Vohoras are growing an interesting mix of coffee varieties on their farms. In addition to the heritage Bourbons and New World Typicas, they have planted SL28 (a drought-resistant selection made in Tanzania in 1931), Kenya's improved and backcrossed Batian hybrid (named for Mt. Kenya's highest peak and a prominent Masai leader), and lastly Kent, a Typica selection made in India — the first such selection made for rust resistance.



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<u>Screen Size</u>	<u>Percent</u>	<u>Density</u>
>20	0.47%	672 g/L (free settled)
19	7.00%	682 g/L (Sinar)
18	23.01%	
17	27.12%	<u>Total Moisture Content</u>
16	25.17%	9.3% (Sinar)
15	14.77%	
14	2.09%	<u>Water Activity</u>
≤13	0.37%	0.468 @ 20.79 (Rotronic)

Roast Analysis by Candice Madison

It's Carbi T time, and in the words of her namesake, 'I Like It!' This coffee is a hit in The Crown for very clear reasons, it's an absolute delight to drink. That being said, it's not simple to roast. The challenge reaps rewards, however, and this coffee is well worth putting in the work. That being said, you don't have to because we have! It took me two bites of the apple to work this coffee out, and I'm glad I put in the time. Carbonic maceration is a process that creates a coffee that needs a little finessing to eke out a roast profile that's easy to manage. Looking at the metrics, there were 3 data points I had to take into consideration; low moisture, low density, and a wide spread in screen size. I also noted that there were many broken, chipped and cut beans which have a tendency to roast faster and therefore darker and may impact the cup quality.

I wanted to make sure to highlight how sweet this coffee was, and have a chance to develop those sugars appropriately, staving off any dark, toasty roast defects. I started the roast at 365 degrees F. A little higher (by 5 degrees) than usual, but I wanted to compensate for the fact that I wasn't going to turn the gas up immediately. Once the coffee had reached equilibrium and risen to around 276F, I turned the gas up to 3 on the dial. I kept the gas steady through the start of the Maillard stage, but then stepped down to 2.5 at 338F - giving only a minute of the higher heat application, as I knew the coffee would take that thermal energy and run with it!

I kept the heat steady until first crack, which I had to surmise by looking at both the rate of change (RoR/RoC) curve, as well as the spike in the return and exhaust curves, as I couldn't hear it at all. This coffee is not showy and does not announce itself. The coffee was cracking from around 386F, but there were no audible cracks until 392F! This coffee cracks very softly and those audible cracks are very far apart, so keep your eyes and ears open when setting your profile.

Because of the density and moisture information, I turned the gas down to 2, as soon as I noted first crack, I then stepped down to gas dial 1 in two steps to finish the roast. I haven't ever had to go below my previous minimum of 2 on the dial, so beware - this coffee wants to fly once it gets to first crack. To



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take advantage of a decent post-crack development percentage, managing the end of this roast is paramount.

So, I may have mentioned - we LOVE this coffee, and will be serving it here at The Crown. I will be roasting it for espresso and can't wait to taste the fruit notes of plum, baked apple married with the soft and complimentary lemon and lime acidity. With the big, silky body this coffee has, I see this translating into a syrupy smooth, sweet and crowd pleasing espresso, whether served by itself or married with your favorite milk!

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 150g batch size, and begin roasting when I've reached my desired charge temperature. [Read my initial post here](#) and my [updated post here](#).

Featuring coffees with unique processing methods and from relatively uncommon origins is always interesting! This coffee in particular employs a much bandied about method, carbonic maceration, that I'm certain affects the flavor profile - but not necessarily how we approach it in the roaster. As Candice notes above, the green preparation of this coffee led us both to be more gentle with our heat application.

To that effect, I charged 150g of this coffee at a slightly lower temperature, 384F. Rather than hitting it with full heat application from the start like I have been doing lately, I set the dial to 9.5A (Quest's recommended heat application for a batch this size). I did want to move this coffee quickly through drying phase, however, and increased to 11A at turning point, along with some extra airflow (3 on the dial). This worked quite nicely, and I increased fan speed to full at 3:00 / 275F to pull the coffee the rest of the way through drying phase.

I knew I wanted this coffee to spend a good amount of time mellowing out through Maillard, so I decreased heat application a little earlier than normal: 3:30 / 298F. The coffee continued to chug along nicely, soaking up heat from the barrel. So nicely, I decided to cut heat application at 4:55 / 350F to see if I could get away with rolling gently into first crack. No such luck, as my rate of rise began to tank, so I reintroduced a modest 5A heat application at 6:10 / 380F to round things out.

Crack was very soft in this coffee, and quite late as well. At 6:48 / 390F I began to hear some soft but persistent poofs. With 18.6% post crack development, I'm pretty sure I got them all to pop!

But this was not a roasty sample on the cupping table. We found black tea, almond, milk chocolate, and a touch of lime in the cup. I am excited to try this coffee as an espresso. At a 1:1.5 ratio (for those of you who are familiar with espresso prep, that's a slightly more concentrated, thicker shot), this coffee would play extremely well with milk and give you an amazing chocolatey finish. More on that soon, as we might see this coffee on bar at The Crown!



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Brew Analysis by Alex Taylor

Thrilled to see this coffee from the Vohora family come through The Crown for a second run! We loved this coffee last year, and featured it on the pourover bar for a good bit of time. I regularly described this coffee's flavor profile as "chocolate cake with raspberry icing in between the cake layers", which is VERY high praise coming from me. (*editor's note: Candice even went so far as to make a chocolate cake with raspberries on top in the not so distant past...*)

We've been enjoying this coffee on the cupping table and have plans to feature it as an espresso in The Crown's tasting room starting in a few weeks, so I tried to brew up some lighter, more delicate brews for analysis of this coffee. We know it's super sweet, and we'll have plenty to say about how it tastes as espresso in a few weeks (come try for yourself, too!), so let's see how this coffee can perform as a pourover.

Didn't do anything too crazy with the brews here: I used Fellow's Stagg dripper and a 1:15 brew ratio for Candice's Probatino roast, and a Kalita Wave and 1:16 ratio for Evan's quest roast. Our first brew (Stagg/Probatino) had a delightful velvety body and a lasting finish. We tasted grapefruit, lime, orange, green apple, fig, honey, milk chocolate, and more! This brew was great - a little heavier than I like, but with some tweaking, it shouldn't be hard to shift the focus towards those juicy citrus notes up front and lighten up the brew's body a little. The second brew was lighter on the palate, with a marginally crisper/cleaner finish. Honeydew, cherry, and red grape kicked things off in the cup, to be quickly followed by huge notes of cocoa, honey, and caramel. An astonishingly sweet cup, this one left all of us coming back for a second sip!

And don't forget, we'll be serving up this coffee in The Crown, probably starting sometime in Mid-March, some come say hey and see what all the fuss is about! (I, personally, am super excited to see how this coffee tastes in a gibraltar...)

Roast	Method	Grind (EK43)	Dose (g)	H2O (g)	Ratio	Preinfusion (g)	Preinfusion (s)	Time	TDS	Ext %
Probatino	Stagg	7 (EK43s)	20	300	1:15	50	30	2:55	1.57	21.62
Quest	Kalita	6	18.5	300	1:16	50	30	2:40	1.51	22.73