

NINE 9 BARS

Water and Extraction: The Latest Tool and Single-Origin Philosophy

by Billy Wilson, *The Albina Press, Portland, Ore.*

In my last article for “9 Bars,” I wrote about the differing philosophies in espresso extraction. The Italians are very precise in their method: 15 grams of espresso plus or minus a gram, while many American roasters and retailers prefer to extract with at least 20 grams, where the puck is large enough to touch the group screen. There were, and are, many intense debates about this, and my advice then was to play and come up with your own method and not fall into a certain methodology “just because.” Well, I have taken my own advice and would like to share a little about what professionals are figuring out about the extraction process.

Before I dive into this ever-growing theory, I would first like to bring up two remarkable trends that have come to pass in the last year: The bottomless portafilter and the growing preoccupation with single-origin (SO) espresso.

The Bottomless Portafilter

You may or may not be aware of the latest tool in the barista’s toolbox. Basically, what many have done is machine the bottom of the portafilter off so that the basket bottom is exposed. This allows the barista to grind, dose, tamp and watch the extraction process first-hand without a chunk of brass in the way. If all goes well, many droplets of oil ooze out the basket bottom simultaneously, and as the basket begins to bow under the massive pressure (9 bars), the espresso pools together at the bottom center of the basket and pours in one column. Any unevenness in your tamp or puck distribution will be evident in the bottomless portafilter. The column of espresso will pull to one side of the basket and extract there first, resulting in the over-extraction of that side and the under-extraction of the rest of the puck. If you have ever pulled a double shot with spouts and noticed the stream pulling on the left or right, only eventually pulling from the other spout, you have witnessed an uneven extraction. This goes for shots that seem to pulse from light to dark as well. The over-extracted (blonde) espresso mixes with the under-extracted (dark) espresso and creates a funny-looking pour. So now with the bottomless, baristas can watch their extraction and troubleshoot their technique.

Different Coffees, Different Extractions

Now for philosophies on single-origin espresso. Many people are advocating the use of coffees from single farms and forsaking the tradition of using a blend for espresso. What this does is provide the imbiber with the experience of that bean in all its glory and possible shame. Most often the espresso will not be well-rounded in flavor, but rather one-sided and intense in regard to that flavor. Nonetheless, it

can taste better than a blend, but for different reasons. And even if the coffee is not pleasing to your pallet, its uniqueness is worth the try.

At The Albina Press, we have a dedicated grinder for SO espresso, and we rotate coffees in and out every week. One week we thought it would be great to pull an Ethiopian Harrar as an espresso (most commonly known for its wild, sometimes intense blueberry flavor). The coffee was roasted locally by Stumptown Coffee Roasters and is semi-washed. This gives the coffee fuller body due to more soluble matter imparted to the bean during processing. Washed coffees tend to be complex and clean while naturally (or dry) processed coffees are heavier in the cup. What the latter loses in complexity it makes up for in intensity.

Our first time running the Harrar through the machine, we dosed as we would the Hairbender Blend (Stumptown). The blend is almost entirely composed of washed coffees and a little bit of semi-washed. With the Hairbender we dose fairly high, around 20 grams for a double, and cut the stream at just under two ounces



photograph by David Drouin

Use of a bottomless portafilter allows baristas to troubleshoot their technique.

in 22 to 27 seconds, depending on the coffee's age. We turn off the pump the moment the coffee begins to "blonde" and loose viscosity. With the Harrar, our pours lasted well into the 30-second range. The pour just kept going ... no blonding, nor anything that would be indicative of over-extraction. The empirical evidence made me think that certainly not all coffees are created equally in terms of possible solubles. The Harrar (due to its processing method, I'm guessing) had more to give than the blend. In fact, we could dose in the Italian fashion (15 grams) and come out with a tasty shot. Hmm ... maybe the Italians were on to something.

When we then tried pulling a fine coffee like the Guatemala San Vicente or any other high-grown washed coffee, a lesser dose would have been suicide for the origin. It really just seems that the washed coffee didn't have enough to give to the cup. At about 18 to 20 seconds, the coffee would cry out for us to end its suffering. If we upped the dose, however, the shots flowed like honey and produced what we know to be a great espresso.

It would seem, then, that both the Italians and the Americans are right. I say this because Italians will typically use dry-processed naturals and maybe even a little robusta in their blends that would facilitate a lesser dose for extraction, while their American friends tend to use more washed coffees, many of which wouldn't touch a robusta for their life. This would explain the trend to dose more. Doesn't this make so much more sense now?



At The Albina Press, the author uses a dedicated grinder for single-origin espresso.

While mulling over this theory, another coffee fanatic named Chris Tacy enlightened me with even more

theorizing. His idea is that dry-processed natural coffees tend to be more hydrophilic than high-grown washed coffees. The *Merriam-Webster Dictionary* defines hydrophilic as "having a strong affinity for water." Tacy's experience is that naturals will need to expand more in the brewing chamber due to their ability to absorb water, and unless allowed to do so, the puck will rise and can crush the group screen. The washed coffees, however, really won't absorb any water and don't expand near as much. This would explain the need for the several-millimeter clearance in the brew chamber that both Andrea Illy (in *Espresso Coffee: the Chemistry of Quality*, Academic Press) and David Schomer advocate. A largely washed blend using this method results in a soupy mess left over in the basket after brewing.

After all this fussing around, I am left with the conclusion that there may be a right and a wrong way to pull a blend or a single-origin espresso, but it is based on the components of the coffee and not just regional preferences. I think it is safe to say that if your blend is composed of naturals and maybe some robusta, give the coffee room to grow. But if you have a washed blend, dose a little to a lot more or else you will struggle with early over-extraction and a thin, astringent cup of espresso.

And by the way, what's in your blend these days? ☺

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