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Table@Lucidcafé



On The Table #18

Espresso Packing Technique '99

Dear cyber reader, I took my first packing lesson in 1987 from one of the true founders of the espresso in the states, and a seriously nice fellow, Kent Bakke. Besides being a great guy, Kent is an intense sort of packer. Applying such force to his wobbly porta-filter that I instinctively backed up a step, fearing an explosion if he should accidentally slip.

Kent, red faced and panting, said " You must... grunt.....pack with as much...nnngghh...force...mmmph...as you can muster...It is the true...grrr...Italian way."

French people and Italians had thought, in the last century, that pressurized brewing water might help extract and preserve the most coffee aromas and flavors through the brewing process. For over five centuries various artisans and other lay-abouts with extra time and money on their hands, had been engaged in a stampede of wild inventing-all in pursuit the aromatic siren of the roasted bean. From the lowly biggin to the cold water infusion towers, pressurized brewing water is the clear winner.

To create modern caffe espresso machines push hotwater, with 125 pounds of force behind it, through a little stainless steel basket containing ground coffee. Precise, careful hard packing has been shown to be the best way to control this water flow and ensure even saturation of all coffee particles in the matrix. Which gives you the most flavor.

So we all hard pack the espresso. There is of course a whole body of technique, tools and theory that maximizes you, and your staffs, ability to do this. In this article we will examine each aspect of this process from choosing the packing tool, applying the packer with correct grip and packing pressure , ergonomics of the workplace, and teaching it to others.

For you familiar with my espresso training material the following takes on the patina of a familiar refrain, a theoretical old friend: In espresso we need to have all factors in control to isolate the effect of one factor, such as packing technique, on the espresso

coffee we see coming out of our machine. From brewing water temperature to the freshness of the coffee, any mistake will reduce texture, flavor, and crema. Espresso coffee made from stale beans will always dribble out of the spout, clinging to the metal like a kitty in a tree afraid to drop into the cup. Once in the cup it will feature a whitish shred of foam across a thin black gruel. It is Not Real Attractive Espresso. Doesn't matter if you pack well or not, if your beans are stale the coffee will not improve. The same can be said of the any of a dozen factors. For a complete program consult my book ["Espresso Coffee: Professional Techniques."](#)



Fig. 1: Our "Ergo-packer."



Fig. 2: "Ergo-packer" features engraved lines to check the dosage and level-ness of a pack.

The Packer

The two considerations in selecting a packing tool are coffee quality and staff comfort, the emerging science of ergonomics.

Pictured here is our "ergo-packer". It is a design directly derived from the traditional Italian flat-packer I was given in Trieste by Illy Caffè in 1988. It is called a flat packer due to the flat bottom. As the bottom of the coffee basket is also flat, a flat packer provides a packed cake of coffee that is an even thickness.

There is another school of thought. Many Italian packers have been made with a rounded bottom. I believe this design was produced to push the ground coffee towards the sides of the coffee basket to facilitate a good seal between the basket walls and the packed coffee. But, this design produces a packed cake of coffee that is thinner in the middle. More pressurized water flows through the center of the cake in this design causing over saturation while the edges do not receive enough saturation. You end up with less crema in the cup.

For comfort this packer can not be beat. The beveled top of the tamping head, and the handle length and shape, combine to distribute the force of packing espresso coffee throughout the human hand when gripped correctly as in the second photograph. At least that is my theory.

But knowing why it works is a bit beyond me I think. - I report to you directly from the front, working high volume espresso daily for the last ten years. And, the design works. I estimate that my staff and I have prepared well over three million double shots with such a design with no significant hand or wrist problems. Master barista Amy Vanderbeck has made over a million double espressos in fourteen years counting her experience at the Nordy's cart and with Jack at the original Uptown Espresso. She likes the packer and the grip.

Sizing

The packing head should be within one millimeter of the diameter of the coffee basket AT THE DOSING LEVEL.

Check out the diagrams to the right. These are actual silhouettes of the most widely used coffee baskets with the shaded areas representing the packed coffee. Choose the packer based on the measurement of the diameter at the level of the packed coffee, ie. the packed dosing level. Some baskets taper in and some feature a distinct vertical chamber. Remember, to establish your ideal dosage you must be about 5mm from the bottom of the dispersion screen with the porta-filter locked into the group head.

The Technique

Begin by grinding a shot. (We favor grinding each shot to order.) Remove the porta-filter from the group head and bang out the old puck. Quickly dry the inner walls of the coffee basket with a cotton bar towel. (Note: I dry the inner walls of the coffee basket to help the coffee form a water-proof seal with the walls of the basket. Water likes to go where water is, it is basic physics-so dry the basket quickly and thoroughly, it really works.) Using the dosing hopper lever transfer the ground coffee into the coffee basket.

You have a little pile of coffee in the basket. Quickly level it off to the edges of the coffee basket, like measuring flour with a dry measure cup. Now distribute it by compressing it gently in a back and forth motion with your finger.



Fig. 4: Quickly level it off to the edges of the coffee basket.

Go back and forth twice from 6 o'clock to 12 o'clock and again from 9 o'clock to 3 o'clock. Distribution of ground coffee is subtle. You are trying to arrange a sticky "powder" in a perfectly even matrix of grains before packing. Dosing and distribution of ground coffee are big subjects to be covered to perfect the espresso method. We advocate grinding each shot to order and using the Leveling Technique to achieve a repeatable dosage and even distribution. For a complete discussion consult my book.

Place the porta-filter on a hard surface, holding it as level as you can. Do not bump or shake the porta-filter. We have found that the height of the packing counter is important to employee comfort. It seems best if the barista is packing with the counter

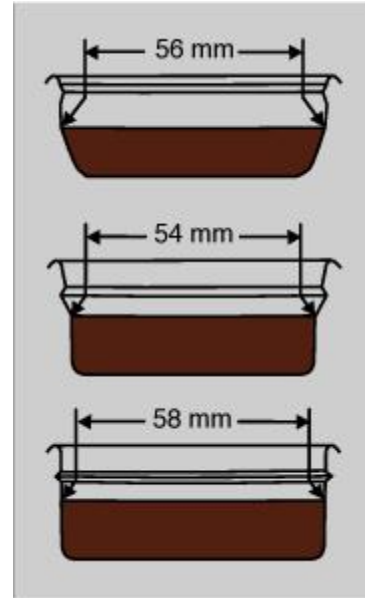


Fig. 3: Our Ergo-Packer features easy to change packing heads in sizes from 53mm through 58mm.

top at about their belt level, right at their waist. Obviously with staff of various heights this is a challenge for the bar owner.

As a rule of thumb the taller people are more comfortable with the counter a bit too low than the short people are if the counter is too tall for them. At Vivace our packing counter tops are at about 34" from the floor. This is a good compromise height for most staff.

Gently place the packing head against the surface of the coffee and push straight down, paying particular attention that you hold the packer straight ensuring a level pack. On this first pass it is not essential to pack down with the full weight, it is more important to be perfectly level.

Packing Weight

How hard should you pack down? This subject straddles the world of ergonomics and coffee quality. For the espresso packing down with 50 to 60 pounds of force will maximize your goal of even saturation but in my first year I learned directly it is not sustainable for the light of bone and tendon, such as myself.



Fig. 6: Use a bathroom scale to train employees



Fig. 5: Forearm and packer form one straight line.

Using a bathroom scale to train employees I have settled on 40 pounds maximum pressure to make supreme espresso and not strain any ligaments or cause back check aches .

After the first pack twist the packer as you let up on the pressure. The twisting motion assures that the packer does not pull coffee off the surface of the partially packed cake. Raise the packer, flip it around smoothly, and using the small end tap the side of the porta-filter to dislodge ground coffee that has crept up the side of the basket. It is essential you do not hit it very hard. Use only the minimum force to get coffee off the side walls or you can break the seal between the coffee basket and the packed coffee. (Note: by drying the basket you need barely touch the porta-filter to dislodge this ground coffee.)

Then place the porta-filter back on the counter and apply the packer again, straight down. Bear down with forty pounds of weight and as you release pressure polish the surface of the packed coffee with a twist of the packer. If you pack right-handed you should twist clockwise a full 360 degrees around with no more than twenty pounds of weight on the packer. Do not "scrub" the packer, twisting back and forth. Instead twist one direction as far as your

wrist allows, then reset your grip and twist the same direction again without lifting the packer. A fluid smoothness is important.



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Note: When you reset your grip, essentially letting go of the packer and turning your wrist back for another twist, it is a great opportunity to use an alternative grip to refresh your hand because you are not applying the full force during polishing. I personally put the heel of my hand on the handle, curling the fingers under the small lip the handle forms, for the twisting stroke.)

Pack straight down with forty pounds, polish with less than twenty pounds. The polish stroke is intended to help seal the surface against the rush of hot water under pressure. Water at 125 pounds of force can easily break apart the surface of the packed coffee creating a pit. Your coffee goes "down the pit."

A master barista is beautiful to watch doing the dance of espresso preparation. A fluid packing technique is the heart of the whole thing and adds to the romance of this little cup of thick sweet coffee prepared especially for you.

Ciao for now!

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