

COFFEE PROCESSING METHODS

We often talk about a coffee's flavor as a reflection of origin and roast. While true, that's only part of the story. Processing is another of the most important contributors to coffee's flavor.

A simple description of the coffee processing is *to remove coffee beans from the coffee fruit, dry them, and prepare them for shipment*. But it's done differently in different parts of the world, and each method produces coffee with unique flavor characteristics.

There are three major processing methods (washed, rustic and natural), with a couple of variations. Most coffee origins specialize in one of them, though some countries have great success with more than one method—Ethiopia produces quality natural and washed coffees, while Brazil adds pulped natural to that repertoire.

Today, with instant and ongoing information exchange among farmer, roaster and even barista, we're in an exciting time. Increasingly in specialty coffee, farmers are innovating by experimenting with different processes to develop new flavors, sometimes designed for specific brewing methods.

This document is the most up to date word on the subject. It details the coffee processing methods, their effect on flavor, and which single origin coffee on our menu are process which way. It should correct any materials and training on the processing of Sumatra and Sulawesi in particular (they are not natural process coffees). We hope you find this information useful in building your coffee expertise and perhaps drawing a new connection with your customers between how their favorite coffee was processed and what it tastes like.

We recommend that you pair this information with a tasting of a washed, rustic and natural coffee to get the full effect.



Coffee cherries of varied ripeness on the branch.



Two beans squished (pulped) from the cherry skin. The parchment casing is tightly adhered to the bean and sticky with mucilage (fruit residue).



Unroasted Coffee Beans:
Left - Washed
Center - Rustic
Right - Natural

WASHED PROCESS

MECHANIZED MILL PRODUCING MULTIPLE GRADES

(Costa Rica, Guatemala, Colombia, New Guinea, Ethiopia Fancy, Kenya, Tanzania)

WET MILL

1. Pick ripe cherry and transport to mill
2. Pulp (remove) the red cherry skin, leaving two beans encased in sticky parchment
3. Ferment parchment coffee 2-3 days in a tank to loosen the mucilage (fruit residue)
4. Run in a channel with fresh water to wash off mucilage completely
5. Dry parchment coffee to completion (11% moisture) in sun (about 6 days) or mechanical dryer (about 2 days)
6. Rest the parchment coffee in a silo or conditioning bin for 1-2 months

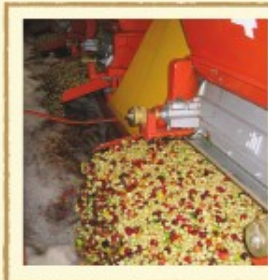
DRY MILL

7. Hull the parchment shell from the green bean
8. Fully grade beans on series of machines by size, shape, density and color



FLAVOR PAYOFF:

Washed Coffees are bright on the palate with lively flavors and clean mouthfeel



Parchment beans (pale) and detached skins (red) emerging from pulper



Parchment coffee in fermentation tank



Washing parchment coffee in channel



Sun drying parchment coffee on patio



Dry, clean parchment coffee



Finished green coffee (Washed Process)

AQUAPULPED (OR PENAGOS MACHINE)

A modern variation on washed processing. The main difference is that the mucilage is not fermented off. Instead, it is mechanically rubbed or forced off with water. This method is increasingly popular as it uses less water overall.

RUSTIC PROCESS

HAND WASHED
(Sumatra and Sulawesi)

HOUSEHOLD FARMER

1. Pick ripe cherry
2. Remove the red cherry skin with hand pulper, leaving two beans encased in sticky parchment
3. Briefly ferment parchment coffee in a sack overnight
4. Hand wash in bucket to remove mucilage (fruit residue)
5. Cursorily dry parchment coffee on a tarp

LOCAL COLLECTOR

6. Wet-hull the parchment while bean is still spongy (up to 45% moisture content)

LARGE COLLECTOR - EXPORTER

7. Finish drying green bean outside warehouse in export city
8. Grade by density machine only; hand-remove major defects only



FLAVOR PAYOFF:

Rustic coffees are heavy on the palate with rustic (coarser) flavors and mouthfeel



Hand pulping

Hand washing

Partial drying in parchment
on tarp



Wet Hulling

Sun drying hulled, green coffee

Finished green coffee
(Rustic Process)

NATURAL PROCESS

DRIED IN THE FRUIT, HAND MILLED

(Arabian Mocha Sanani)

1. Pick ripe cherry
2. Spread in the sun to dry (2-3 weeks)
3. Mill hard dried fruit (parchment, pulp, skin) from beans
4. Sort for defects (more or less carefully depending on origin, quality)



FLAVOR PAYOFF:

Natural coffees are fruity, winy, often wild in flavor, with heavy mouthfeel



Arid growing conditions

Arabian Mocha Sanani cherry drying on a Yemen rooftop



Whole, dry coffee cherries

Stone wheel mill
(Unique to Yemen)

Finished green coffee
(Natural Process)

PULPED NATURAL

A related method where the freshly-pulped coffee is dried in the sun with the sticky fruit still surrounding the parchment. Once dry, the beans are milled of the dried parchment/fruit covering. We don't carry a single origin pulped natural coffee, though sometimes the Brazil component of Espresso Forte is a pulped natural. Other times it is a natural.