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RULING THE ROAST

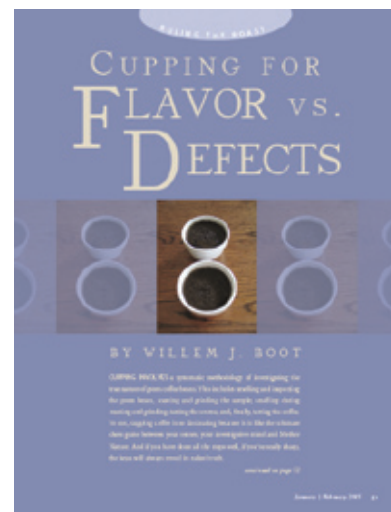
Cupping for Flavor vs. Defects

by Willem Boot

CUPPING INVOLVES a systematic methodology of investigating the true nature of green coffee beans. This includes smelling and inspecting the green beans, roasting and grinding the sample, smelling during roasting and grinding, testing the aroma, and, finally, tasting the coffee. To me, cupping coffee is so fascinating because it is like the ultimate chess game between your senses, your investigative mind and Mother Nature. And if you have done all the steps well, if you're really sharp, the bean will always reveal its naked truth.

Almost anyone can join the ranks of the coffee-tasting community, but some people in the industry still perceive coffee cuppers as a mysterious clan of chosen artisans. This misconception stems from the times that cupping was done silently by male, senior executives of the company. In those days, one gesture could seal the fate of a sample: pushing a cup forward meant instant rejection, while a simple nod meant that the coffee was approved. Fortunately, those days are gone, and with the rise of the specialty industry, a new generation of coffee cuppers evolved. These younger professionals enjoy confronting the cupping table with an unconventional and open mind. As a result, we often hear new, innovative cupping language and suggestions that are enough to raise the eyebrows of the older generation.

The idea of cupping for flavor profiles is one of the ways in which these younger professionals have changed cupping. In the old days, people cupped mainly to detect possible defects. The presence of these flavor taints has



a great impact on the value of the product. One can say that buying defective coffee is like purchasing a “lemon” from a car dealer. Therefore, the coffee cupper should apply a stringent cupping protocol to prevent the occurrence of defects.

Nowadays, almost all specialty coffee cuppers have a second, more compelling reason to cup coffee: to determine the flavor profile of the coffee and to assess the actual value of the product.

Cupping for Defects

One important reason for cupping coffee is to prevent the purchase of defective coffee beans. Table A. (see next page) summarizes the different types of flavor defects and how they are most likely caused. Coffee defects can be present as visual imperfections and can manifest as flavor taints. In most cases, defects are caused by minor or serious flaws in the cherry to green bean manufacturing process and, in my opinion, about half of all defects could be prevented if coffee processors did a better job in keeping their wet mills clean.

Successfully cupping for defects requires extensive experience; the coffee taster has to develop a memory bank of all different defects and this can only be accomplished

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by tasting sample after sample after sample. If you're lucky, you can find an experienced teacher in defect cupping. During my first years in the U.S. while I was learning about coffee defects, I met the late and unforgettable Pete McLaughlin, cofounder of Royal Coffee, and I can remember vividly his facial expressions while analyzing another defect, "Taste this one, it's really bad..."

Cupping for Flavor

As I mentioned earlier, the other important reason for cupping coffee is to evaluate the flavor. Specialty roasters, who buy their green coffee beans from importers or producers directly, must taste their coffee to evaluate the flavor profile. The flavor profile is made up of individual cup attributes that are like the bricks of an attractive building. Each cup attribute represents a specific flavor note, and the flavor profile can contain multiple attributes at the same time.

The cup attributes are caused by various factors in the growing and processing cycle of the coffee beans. First, there is what the French call the *terroir* of the coffee. Terroir is a term that was first embraced by the wine industry, but nowadays one can hear roasters around the world use it as well. Terroir refers to the actual soil in which the coffee tree was grown, and it includes a composite set of quality factors, like the growing environment as well as cultural and local traditions applied during the processing of the coffee cherries. Take, for example, the flavor of Yemen Matar coffee. The terroir of Yemen includes the variety used (Mocha Arabica), the stressed and dry growing conditions of the Yemen highlands and the traditional local style of sun-drying coffee cherries, which strengthens the winy characteristics of Yemen coffee.

The second important cause of cup attributes in coffee is the result of the application of optimal agronomic practices. The most important objective in growing and producing coffee cherries is to produce, select and pick red, ripe cherries, which can at best guarantee a fully developed green coffee bean. Despite the fact that there is no conclusive definition for specialty coffee, it must be emphasized that it is impossible to produce specialty grades from immature coffee cherries. The maturation cycle of cherries generally enhances the development of organic acids in the coffee, and these acids are essential for the presence of sweetness, as well as the clarity in the cup.

The third way in which cup attributes are enhanced is during the transformation from cherry to green bean. And, as in all production cycles, every step counts. When it comes to flavor attributes, we should conclude that the presence of attributes is enhanced or weakened by each step in the production cycle. For example, the use of demucilage machines versus the application of traditional fermentation methods can have a serious impact on coffee flavor. To at least the same degree, the choice for drying styles of parchment coffee will also affect the cup. Sun-drying techniques versus the use

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TABLE A. DEFECTS

DEFECT	CHARACTER	ORIGIN	FLAVOR
DEFECTS DUE TO PLANTATION CONDITIONS			
Black Bean	Black surface	Fungi attack	Harsh, ashy
Insect-Damaged Bean	Circular holes (0.3–1.5 mm)	Coffee berry borer	Bland to bitter
Dark Brown Bean	Brown to black	Attack by bugs on immature cherry	Fruity to harsh
Malformed Bean or Shell	Abnormally shaped	Growth defect	Low acidity, bland
DEFECTS DUE TO HARVEST			
Immature	Wrinkled surface	Unripe cherry	Fruity, low acidity, bitter
Quaker	Light brown color	Unripe	Bland, bitter
Phenolic	Unrecognizable	Not clear yet	Extremely medicinal, astringent & metallic
Rioy	Medicinal smell when cut	Overripe cherry	Medicinal, iodine
Sour	Outside: light Inside: brown/reddish	Molds	Sour
Foreign Matter	Sticks, stones, leaves	Improper selection during picking and grading	Bitter, woody, bland
DEFECTS DUE TO PROCESSING			
Damaged Bean	Bean fragment	Improper setting of equipment	Flat, possibly stinker
Sour Bean	Brown-reddish internally	Wild fermentation	Potato
Rioy Bean	Medicinal smell when cut	Soil and growing conditions	Medicinal, iodine
Over-fermented or Stinker Bean	Only visible under infrared light	Contamination	Rotten
Moldy Bean	Visible mold	Improper drying	Musty
Earthy Bean	Smell of wet soil	Dried on wet ground	Earthy
Rubbery Bean	Unrecognizable	Drying on highway	Rubbery, sulphury
Funky Bean	Unrecognizable: mostly occurs in Sumatra Mandheling Coffees	Pollution, often caused by drying on polluted ground	Winy and fruity but not over-fermented
Hidey Bean	Yellowish-Brown	Overheating of oven	Hidey
Faded Bean	Color somewhat faded	Improper storage: insufficient air circulation, ambient temp. too high	Leather-like, hidey
Hull or Husks	Parts of dried cherry and/or parchment	Improper setting of equipment	Bland, neutral
Parchment Bean	Bean still in parchment	Improper setting of huller	Hidey, woody

of machine driers generally have a major impact on the intensity and quality levels of acidity, body and flavor and without expressing a preference for either method, we should at least conclude that the coffee processor should be aware how the cherry-to-bean process influences the final coffee flavor.

So, if we all agree that coffee flavor is intrinsically connected to the presence of cup attributes, how do we go about finding these attributes in the cup? Of course, it is essential in this context to focus on the protocol that is used for the cupping ceremony. There are some important rules to observe while tasting coffee, especially while cupping for flavor profile:

RULE 1: Always compare. Ignore the sweet talk of your coffee broker about the beautiful characteristics of coffee A. Trust your own impressions and senses and always cup an alternative sample of coffee B (from the same origin) for comparison. Preferably add sample C (from the same origin, from last year) to the cupping session.

RULE 2: Always cup your coffee blind. The beautiful name of a certain coffee can trigger an expectation, which will influence



your perception and your tasting experience. In addition, cupping blind is the best training tool for any novice coffee cupper.

RULE 3: Be consistent. I encourage you to develop a written protocol for your cupping exercise. Keeping things consistent guarantees that you are cupping the flavor of the coffee only, without being distracted by possible variability in the preparation of coffee samples. Generally, the roasting process is the main source of inconsistencies in cupping protocols. I have observed and attended too many cupping sessions where it was impossible to tell if the flavor differences between samples from the same origin were due to true cup attributes or were the result of variability in roast degree.

RULE 4: Keep your palate clean. Cupping coffee for flavor profile right after a heavy lunch is a waste of time. The best cupping moments of the day start right before you are getting hungry. For example, I cup best between 10 a.m.–12 noon, and I like to cup coffee between 4–6 p.m.

RULE 5: Be quiet! Don't talk until everyone is finished with the entire cupping session. Some cuppers tend to brag about the cup attributes they encounter in a given coffee, and too often they don't realize that this can influence the perception and impressions of other cuppers.

RULE 6: Clear your mind and open yourself. Like the Zen-Buddhists say: "Think hard of Nothing." I have had the best cupping experiences while being relaxed, eager and investigative at the same time. I always like to use analogies when it comes to cupping coffee. When I was nine years old, my mother took me for the first time to a classical concert. I was impressed and disturbed by all the action on the podium, by the fury of the brass instruments and by the tender, gentle strokes of the violins. Being a



novice, I could hardly follow the music. The more I went to hear other concerts, the more I could distinguish melodies and harmonies and the more I began to understand the music. The same is true with cupping coffee. Once you start cupping coffee frequently, you will recognize the different tones of acidity in various Guatemalan coffee samples. You will blindly identify the aroma of your favorite Kenya AA. You will indulge in the sweet and winy finesse of an Ethiopian Yirgacheffe.

Last but not least, it should be clear to all specialty coffee aficionados that cupping for flavor, being the key reason for cupping specialty coffee, is at once the more difficult and the most controversial practice. The heart of the controversy rests in the presumed subjectivity of tasting in general. Haven't we all been to cupping sessions where the experts clearly don't agree and, as a result, the tasting panel comes up with different opinions and perceptions about the same coffee sample? From experience, I can tell that coffee tasters too often let their personal preference interfere with the outcome of the cupping session. Imagine a coffee taster who doesn't really like acidity in any beverage, including coffee. How can

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this cupper form an objective opinion about the flavor profile of Kenyan coffee, which is known so much for its vibrant acidity? The answer: keep the final client in mind. The professional coffee taster should primarily be concerned with the expectations of the final client. This emphasizes also the necessity of doing frequent product surveys, like final product testing so that the coffee taster stays connected with market requirements.

So, how can we use the tasting protocol to satisfy both reasons for cupping coffee—detecting defects and assessing the flavor profile? Let's review some basic guidelines.

With every cupping session always try to follow the same routine. First, roast at least 5 ounces of green coffee. Make sure the color is not darker than Agtron 55, which requires you to finish the roast before the second crack. Second, prepare at least four cups per sample, flush the grinder and grind each cup separately. Don't forget to use a scale to measure the correct dosage. Third, smell the fragrance of each cup separately and look for possible taints as well as some first apparent aromatic attributes. Coffee taints like fermented, phenolic, fruity or dirty can mostly be smelled now, while other milder taints usually reveal themselves later. Fourth, pour hot water (200 degrees F.) and let the coffee steep for at least three minutes. Start smelling the aroma above the cups and then use your spoon to stir the coffee three times while investigating the aroma. Fifth, while tasting the coffee you should evaluate all relevant quality parameters, like acidity, sweetness, body, flavor and aftertaste.

Once you are confident that the coffee is clean and free from taints, then use all your efforts to discover possible attributes in the flavor profile; "Le Nez du Café" aroma bottles can be a great reference tool to assess cup attributes. Finally, it's important to

taste each cup at least three times, from hot to lukewarm. Some cup attributes and taints show up later in the tasting session once the coffee has extracted nearly to the maximum degree.

While the old-school idea of cupping for defects will help you to prevent customer complaints, the newer idea of cupping for flavor is all about assessing the value of your coffee products. The more positive cup attributes you have, the more value your coffee product will have—both to you and to your customer.



WILLEM BOOT is president of *Boot Coffee Consulting & Training* in Mill Valley, Calif., specializing in cupping and roasting courses and strategic consulting for the coffee industry.

Willem can be reached at
willembot@bootcoffee.com
or at 415.380.1999.

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