



This article was originally published in the July/August 2006 issue of *Roast*

Blending the Rules

The Art and Science of Combining Coffees

by Willem Boot



My personal experiences with coffee blends started many years ago in The Netherlands. In my home country, like in most other northern European countries, consumers were traditionally accustomed to standardized (read ‘boring’) blends that would have a major component from Brazil, some Central American beans, usually some Indonesian coffee, complemented by robusta beans from West Africa. My dad became our town’s messiah of single-origin coffee and preached the purity of the essential flavors of single-origin coffees from countries around the world.



One day, while working in my dad’s roasting retail store, I decided to experiment with some simple blending recipes. The results were fascinating. I discovered that by blending a high- and low-body coffee (like Sulawesi and Costa Rica), the blend’s body became very smooth, resulting in a velvety mouthfeel. I also discovered another interesting phenomenon: blending high-acid coffees together didn’t necessarily result in a pleasant end result. It was as if the coffees, with their intense acidity, were clashing, resulting in an almost hardish sourness.

While doing my own experiments, I also started to realize the importance of proper record-keeping. One day I believed I had found the ideal marriage between three coffee types: Panama, India Mysore and Tanzania AA. Each component was roasted to its own distinct degree, and after blending the beans I brewed some regular drip filter, followed by a French press preparation. The blend was delicious; the refreshing acidity of the Panama and the nutty flavor tones of the India Mysore combined beautifully with the chocolate and berry notes of the Tanzania AA. When I tried to re-create the blend, I realized that I hadn’t kept any bean samples of the individual coffees, nor had I made any detailed notes during the roast

continued on next page

process. Despite many frantic attempts, I have not been able to successfully craft my “phantom” blend again.

To Blend or Not to Blend

Within the specialty roasting community, there is currently a rise in the popularity of single-origin coffees. That’s easy to understand—single-origin coffees allow roasters and retailers to finesse a coffee into its best flavor while selling the story of the particular growing region and/or producer of the coffee. “I’m more of a fan of single-origin coffees because of the story they can tell about the roots of the coffee and the unique growing conditions of the beans,” admits Michael Johnson, owner of Johnson Brothers Coffee in Madison, Wisc. “However, our blends have given us the opportunity to open the doors to some large accounts, like the local university.”

Thus, blends are still a force to be reckoned with—in their own way, they offer the roaster a chance to test his skill, while creating a product that is in demand from consumers. “In my opinion there are really very few reasons to blend coffees,” says Geoff Watts, vice president of Chicago-based Intelligentsia Coffee & Tea. “The first is if year-round consistency is a goal. Some people don’t like much variability and would rather have a coffee in their store that tastes the same way in January as it does in June.” All coffees are seasonal and certainly perishable, thus, creating a blend



Beans for Blending

BRAZIL Choose a pulped natural type with full body, no musty notes and slight aftertaste of fermented fruit.

SUMATRA Select a Gayo or Mandheling region coffee with clean earthy notes, preferably double-picked.

PANAMA I recommend choosing a Volcan- or Santa Clara-grown Panama with medium to bright acidity and lingering sweetness.

GUATEMALA Find any SHB Guatemala with vibrant acidity and clean fruit notes (with lighter roast levels these attributes generally contribute to a piquant acidity; with darker roast degrees they develop attractive chocolate notes).

KENYA Source a stellar bean with multi-layered acidity and bright berry notes (these are most predominant in bourbon varieties).

ETHIOPIA For this exercise, I recommend a sun-dried Yirgacheffe or Sidamo grade 3 with well-ripened, dense fruit flavors.

NICARAGUA Prepare a Nueva Segovia or Jinotega with pleasant fruit notes and smooth mouthfeel.

COLOMBIA For this exercise, I prefer a Colombian that is of the caturra or typica variety with a bright acidity, full body and clean aftertaste. The coffee can have some fruit attributes, but if you use a Huila watch out for dominant fruity notes.

DECAF I prefer the Mountain Water Process Decaf or the Swiss Water Decaf, and I recommend trying Ethiopian decaf for the described blend.

where the ingredients and proportions change during the year to keep the blend vibrant and fresh without veering away from its essential character can be a good way to achieve year-long consistency.

“The second, and more compelling, reason to blend is to create a combination of taste characteristics that cannot be found in a single coffee,” says Watts. “This is blending as an art form rather than as a pragmatic tool. It is fascinating to me how different sets of flavors and cup traits can interact in unexpected ways. More often than not, 1+1 does not equal 2, or 11 for that matter.”

This is the benefit of proper blending, and the potential downfall of incorrect blending. This is because some coffees complement each other and, in the cup, particular traits from each coffee find a way to articulate themselves,

so much so that a good cupper could clearly identify the individual constituents. Other times one coffee will dominate the other, incorporating traits from the second coffee in a way that makes them hard to discern.

Another advantage of a blend is that it has long-term retail appeal. The coffee will not just taste consistent from month to month, but also ideally from year to year. More than 10 years ago, Batdorf and Bronson Coffee Roasters in Olympia, Wash., developed its Dancing Goats Blend, and it is still one of the company’s most popular sellers today. “The best blends can be used for both espresso and drip filter preparation,” says Larry Challain, founder of Batdorf and Bronson, of his blend philosophy.

continued on next page

Chart A. Roast Styles

Roast Style	Agtron Color	Description
Light	64–68	The first crack is completed. Some coffees can now be consumed, provided that the first crack occurred slowly. To accomplish this, the roaster operator must reduce the heat supply at least one minute before the first crack.
Medium Light	60–64	About one to two minutes after the finish of the first crack. Color of the beans is quite even. There is a minimum of darker roast spots on the beans. To accomplish this roast style, the roaster operator must reduce the heat supply just before the start of the first crack.
Medium	55–59	This is just before the start of the second crack. Beans are evenly roasted and start to expand more. At this point, the heat inside the beans almost becomes exothermic and you can notice that subtle aromas are released by the coffee.
Well-Done	50–54	At the beginning of the second pop and the heat inside the beans becomes exothermic.
Dark	44–49	The second crack is about 25 percent completed. There is now a rapid staccato of cracks occurring.
Very Dark	36–43	The second crack is at least 50 percent completed and oils start showing on the beans.
French	28–35	The second crack is complete; the beans develop more oils and swell to their maximum size.

NOTE: I strongly recommend exploring the roast styles between Agtron 40 and 60. With these roast styles you will obtain more coffee flavor with complex and potentially sweet, refreshing attributes. Try to build your market niche with this lighter roasting style!

“The blend consists of five individually roasted components which create together the popular flavor profile which is complex, rich, sweet and smooth with chocolate and blueberry-like flavor attributes. Every roast of the blend is cupped daily by the roaster operators who are rotated between our two roasting facilities.”

Hands-on Blending

Over the years, I have assisted many coffee companies around the world with the development of coffee blends, and I generally follow a similar blending protocol to what I describe in this article. Without a proper strategy, it will be very challenging to develop coffee blends, and you might end up applying a “hit and miss” approach, which only on rare cases results in the creation of successful blends.

I recommend following a comprehensive five-step product development protocol that will enable you to plan and execute

a program of product development that usually results in the creation of at least three successful blends for your business.

First, start planning the process of crafting your blends. In this stage it is wise to ask some fundamental questions like: What type of client is the blend for? Home consumers, restaurants, or should the blend have a versatile application? The essential task in this phase is to describe the required flavor profile of the blend with the preferred degree of roast. The roaster or the responsible coffee person should know which flavor attributes to look for. Will the blend be refreshing with a medium acidity or chocolate-like and nutty with a dry aftertaste? Obviously these are fundamental questions that need to be asked beforehand.

Second comes the important task of selecting the coffee components. In my opinion, the coffees should be chosen for their individual quality attributes; each component must be able to stand on its own as a single-origin product. Some companies create blends for the wrong reasons by

trying to mask mediocre coffee components in the blend. I believe this is a foolish strategy and the short-term benefits—higher profit margins—do not weigh up against the long-term consequences of losing dissatisfied clients.

Third, determine the roast level for each of the coffee components that will be utilized for the design of the blend. This step is very crucial and must be explored extensively for each of the components of your blend. I have noticed too many roasting companies skip this step and, as a result, companies settle too quickly for the specific roasting style for each coffee component. Remember, optimum roast levels are different for each coffee and most coffee types have more than one optimum roast degree. As a result, the roasting process and the seemingly infinite number of roasting degrees can make your job as blender an endless nightmare. For that reason I have defined seven levels of roasting, described in

continued on next page

Chart B. Blend Styles

Blend Style	Brazil	Sumatra	Panama	Guatemala	Kenya	Ethiopia	Nicaragua	Colombia	Decaf
Breakfast Blend		25% Dark		50% Very Dark				25% Medium	
House Blend			50% Medium	25% Dark	12.5% Very Dark	12.5% Dark			
Espresso Blend	25% Well-Done		35% Well-Done	20% Dark		20% Well-Done			
Pacific Blend			33% Medium				33% Well-Done	33% Medium	
Summer Blend			25% Medium		37.5% Med. Light		37.5% Medium		
French Roast Blend		50% French						50% Very Dark	
Fifty-Fifty Blend			25% Well-Done	25% Medium					50% Medium
Vienna Roast Blend		33% Dark		33% Very Dark			37.5% Well-Done		
Exotic Blend			25% Well-Done		25% Well-Done	50% Medium			
Light Roast Blend	25% Light					25% Light	50% Med. Light		

Chart A. Since there is so much confusion about the denominations of roast levels, I have indicated for each roast style its corresponding Agron color range, as well as a description of the roast process.

In general, I recommend exploring the medium light, medium and well-done roast styles. Too many roasting companies are relentlessly copying some of the well-known specialty coffee brands and, as a result, we are experiencing a glut of dark, very dark and French roast styles that thrive too much on the concept of caramelizing and baking the coffee rather than developing real flavor.

With lighter roast styles you will obtain true coffee flavor with complex and potentially sweet, refreshing attributes. Try to build your market niche with a lighter roasting style! It must be noted that roasting coffee to a lighter degree, like light or medium light, puts much more emphasis on the level of skills of your roaster operator. Fully automatic roast profiling systems are generally not capable of developing excellent tasting lighter roast profiles and as

a result the roaster operator must manually ensure that the proper roasting protocol is followed.

Fourth, we get to the actual nuts and bolts of blending. Now, you must select the green coffee types for your blend and roast each type individually to the degree that is indicated in Chart B., which lists 10 different blends with the recommended blend recipes and roasting styles.

Remember, along the way, it's important to take detailed notes about which greens you chose, how you roasted them and what percentage of each you used. Once you've created a blend, or blends, that are to your liking, you want to be able to recreate each element to perfection. Given the fact that coffee quality will change from season to season, I also recommend that you re-evaluate your blends at least once per quarter.

Whether blends are the mainstay of your roasting company, or something that you offer just to round out your selection, it's a good idea to remember that adage we talked about earlier: coffee

continued on next page

Types of Coffee Blends

BREAKFAST BLEND Usually has a slight punch (to wake up) but it should be very accessible so that the client will consume more than one cup. The described blend should be pleasantly refreshing without over-exposed acidity. Use a slightly darker roast for the Sumatra and Guatemala.

HOUSE BLEND In general, house blends should be designed for all-day enjoyment. The flavor must be accessible for most of your clients. Recently, I tasted Peet's house blend and I found that the flavor profile represented quite well the philosophy of Peet's, which advocates a deep, dark roasting style. Despite my personal preference for lighter roasting styles, I found this coffee to be well balanced with a pleasant chocolate-sweet flavor followed by a slight, refreshing aftertaste.

ESPRESSO BLEND The four components of this lighter-roasted espresso blend create a balanced flavor profile with sweet and chocolaty notes, followed by a slightly fruity finish (which is the influence of the sun-dried Ethiopia).

PACIFIC BLEND Contains three coffee types that can be found near the Pacific region. The blend is overall pleasant and can be a crowd-pleaser.

SUMMER BLEND Think of those long, warm summer days. This coffee blend will refresh your customer's palate, and hopefully make them crave a second cup. The lighter roast style accentuates the acidity.

FRENCH ROAST BLEND So you want the really dark roast? Here you go. Make sure that the Sumatra has a sweet flavor and that the bitter roast notes are not too dominant. Brace yourself for the bittersweet aftertaste.

FIFTY-FIFTY BLEND Creating a blend with 50 percent decaf and not telling your clients about the lower caffeine contents might be a smart trick. Some clients reported an increase in consumption after the introduction of this 50 percent decaf blend.

VIENNESE BLEND This blend combines a spicy and sweet flavor with a lingering aftertaste. The darker roasted Guatemala component creates the spice.

EXOTIC BLEND What can be more exotic than marrying two African coffees, one fully washed and one sun-dried natural? Look for the invigorating floral aroma with sweet, fruity flavor notes. If the fruit is over the top, then I recommend reducing the Ethiopia sun-dried component.

LIGHT ROAST BLEND Now we put your roasting skills to the test! Make sure that all coffees are roasted in a timeframe of 12 to 15 minutes.

blends are always more than the sum of their parts. So the key to crafting a great blend is to make sure each of those parts is perfect before you dump them all together. Creating exemplary blends requires the utmost of your tasting skills, and even when you think you've created the perfect mix, your customers still have the final word. Good luck on your coffee blending discovery tour!



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.

roast
MAGAZINE

Subscriptions within the U.S. are only \$25/year.
(Canada/Mexico-\$35 U.S./year Other countries-\$50 U.S./year)

To subscribe or for more information contact us
at 503.282.2399 or visit www.roastmagazine.com

Roast magazine
1631 NE Broadway, No. 125,
Portland OR 97232 | e-mail roast@roastmagazine.com