

A close-up photograph of a hand holding a white ceramic coffee cup. The cup is filled with a latte, featuring a detailed heart-shaped latte art design on the surface. The background is blurred, showing what appears to be a coffee shop setting with other cups and equipment.

# espresso evaluation

Truths, Half-Truths and Myths  
from an Italian Perspective

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**E**spresso. To some, the word brings to mind images of a café in the old country with a marble-topped bar, at which well-dressed men and women stand to converse and drink coffee from little cups. To others, it conjures an image of a coffeehouse with standout baristas crafting espresso drinks using blends and single-origin options. Still others may think of drive-through stands proffering espresso drinks for those seeking a quick shot of coffee on the go. Whatever the setting, the espresso experience has become ubiquitous in countries around the world.

And yet, even with the pervasiveness of espresso in our culture, some myths and half-truths persist regarding the evaluation of espresso in the coffee community. In this article, let's first deconstruct these myths and half-truths and determine how espresso should be evaluated from a traditional Italian standpoint. Then let's look at the truths of espresso evaluation.

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## the myths

The first myth of espresso tasting is the deeply rooted legend of the supertaster. It is not unusual to meet people who still believe that the expert taster should have a more developed sense of smell than average. That would mean the best tasters would be the super-noses—people with an extraordinary sense of smell. The truth is that the best tasters usually have an average sense of smell. They are subject to changes in olfactory thresholds, which means they will be more or less sensitive to smells, depending on the day. What distinguishes a good taster from a mediocre one is not the sense of smell, but the ability to assign semantic labels to the perceived odors as precisely as possible; in short, the ability to name smells. This is a skill that improves with experience and the construction and expansion of an olfactory vocabulary.

This is why the best tasters are also the most curious. They do not pull back from any olfactory experience, even those that might be characterized as negative or unpleasant.

Constructing an olfactory archive of espresso means not stopping at the best single-origins, but tasting even those coffees that are defective. Tasting poor-quality and average-quality coffee, or defective coffees, also provides the taster with a means to better understand the industry and gain a more complete view.

What is certain is that the taster must be able to count on a fundamental tool for tasting that too often does not receive the proper attention: the cup. Naturally, there are endless models of cups on the market; they are, after all, important tools for marketing and communication. Espresso may be served in anything from very thick cups, lacking in elegance, to finer cups, to cups with a flat bottom. However, there is a significant role to the cup. Understanding that tradition is often the carrier of valuable advice that should be heeded, the best cup is still the classic espresso cup: somewhat narrower at the opening so that the walls of the cup conduct the aromatic molecules of coffee to a focal point, as this concentration will help with the recognition of odors.

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# espresso tasting rating card

	DATE	JUDGE'S NAME	JUDGE'S CODE	CODE OF THE SAMPLE
Visual	<input type="checkbox"/> COLOR INTENSITY	level of saturation of the color of the cream, referring to pale yellow as zero and monk-robe brown as maximum		1 2 3 4 5 6 7 8 9 10
	<input type="checkbox"/> TEXTURE	imagining that the cream is a tissue, consider the tightness of the fabric: the less it is visible, the higher the value		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> ATTRACTIVENESS	visual pleasantness of the coffee		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
Olfactive	<input type="checkbox"/> OLFACTORY INTENSITY			○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> OLFACTORY RICHNESS			○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> OLFACTORY FRANKNESS			○ ○ ○ ○ ○ ○ ○ ○ ○ ○
Taste And Tactile	<input type="checkbox"/> BODY	syropiness of the coffee: zero corresponds to the viscosity of a filter coffee; the maximum corresponds to the viscosity of an espresso with a high presence of extractive substances		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> ACIDITY	acid perception similar to electric current on the tongue and immediately disappearing		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> BITTERNESS	intensity of the bitter taste		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> ASTRINGENT	corresponds to the loss of lubricating properties of saliva and to a rasping perception on the oral mucosa. In the case of very astringent coffee, the oral mucosa becomes like leather		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> GUSTATIVE BALANCE	pleasure given by the balance of acidity and bitterness		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> TACTILE BALANCE	pleasure given by the syrupy and spheric sensations		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
Afterflavor	<input type="checkbox"/> FLOWERS AND FRESH FRUIT	floral, citrus fruit, honey, strawberry, watermelon, fresh fruit		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> VEGETABLE	fresh vegetable (pea, pepper, mown grass), dry vegetable (straw, hay, mushroom), boiled vegetable (boiled potato, chicory), balsamic (wood, aromatic herbs)		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> DRIED FRUITS AND NUTS	hazelnut, almond, walnut, date, fig, dried plum		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> ROASTED	cereals (malt, toast), caramel, cocoa, vanilla, confectionery		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> SPICY	pepper, clove, mustard, licorice, other spices		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> EMPYREUMATIC	fried (fried oil) and burnt (grilled meat, ash, coal, smoke, burnt rubber)		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> BIOCHEMICAL	earth, mold, phenolic (pharmacy), milk curd (butter, cheese), animal (stable, leather), sulphureous (onion, boiled cabbage, rotten eggs), alkaline (chalk), hydrocarbons, oxidized (rancid), chemical (solvent)		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> OVERALL POSITIVE ODORS	intensity of the odor that comes from good raw material and the proper production process		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> OVERALL NEGATIVE ODORS	odor intensity resulting from a defect of the raw material or in the production process		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> AROMA PERSISTENCE	duration of aromas after swallowing		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> FINESSE	elegance and pleasure of the aroma		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> RICHNESS	complexity of the aroma		○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	<input type="checkbox"/> HEDONIC LEVEL	total pleasure level		○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Tasting card of the 2010 International Coffee Tasting. Courtesy of the International Institute of Coffee Tasters and of the Centro Studi Assaggiatori-Italian Tasters.

## The olfactory evaluation is the central part of tasting coffee in the Italian tradition.

The thickness of the cup should vary: thicker at the base and thinner at the top, in order to effectively regulate the heat exchange between the coffee and the environment and to keep the coffee beverage at the correct temperature for as long as possible. The reason for the correct coffee temperature leads to another myth to dispel: coffee should be tasted at a cooler temperature. In fact, espresso must be tasted under the same conditions as it will be consumed by our customer: hot. Espresso needs to be served and tasted immediately upon extraction, at 153 degrees F, plus or minus 5 degrees. As the temperature of the coffee decreases, so does the volatility of aromatic molecules, making them more difficult to recognize. Recognizing the aromatic molecules during the olfactory state is the most important part of tasting espresso.



Another pervasive myth is the idea that espresso should be pushed beyond its natural limits by over-extracting the coffee or using too much coffee. The recommended coffee dosage for a single shot of Italian espresso is 7 grams, plus or minus 0.5 grams, while the recommended dosage for a double shot is 14 grams, plus or minus 1 gram. This idea of pushing the espresso beyond its natural limits is probably derived from an exaggeration of the concept of espresso. There is no doubt that espresso, especially compared to drip coffee or the Italian moka, is a concentrated beverage with a decidedly full body and strong personality in the flavor profile. Despite its inherent intensity, espresso should not be burnt. Espresso at its best is an aromatic caress with a delicate balance between acidity and bitter, with the latter always remaining at moderate levels. Yet in many bars, even in Italy, ordering an espresso results in a punch to the nose, not a caress. Of course, everyone is free to extract the espresso as they deem appropriate, but if the caress is absent, it cannot be called espresso.

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## the half-truths

There are also several half-truths about espresso that circulate in the world of coffee. The first concerns tasters who work alone rather than as part of a panel. These are often professionals who consult for roasters and are tasked with making important decisions for coffee companies. The question is: can the opinion of one individual decide the fate of a single-origin or the future of a blend? Certainly, but it's definitely risky. Even people of proven experience can suffer from olfactory inconsistencies, considering that the olfactory threshold of a person varies from 16 times to 1/16 of their own average. One day an experienced taster may have exceptional sensitivity, but on the following day he or she may have difficulty perceiving smells that are quite evident. In addition, the sensitivity to aromatic molecules is personal and depends on experience. However, to achieve the best possible

results when tasting is conducted in groups, it helps to provide information completely and accurately, through the development of statistical data.

A second half-truth about espresso evaluation is the rule that a coffee tasting should always be conducted using unsweetened coffee. This is certainly true in regard to the sensory tests that are carried out in the laboratory. It is natural that on those occasions, tasters want to avoid any foreign element in the coffee and want to standardize the test conditions.

However, the situation is different when you request the average consumer to evaluate espresso. This is the case at tasting shows, like Coffee Experience in Verona, or Caffè Italia in 2010 in Tokyo, New York and Paris, and again in Tokyo this year. The purpose of a tasting event is to connect a hedonistic profile of espresso to the socio-demographic characteristics of those who taste it. On the first side of the tasting card given to visitors, tasters are asked for anonymous information about their demographic and their preferences for coffee. On the other side, visitors are asked to assess the espresso based on three simple parameters: visual, olfactory and gustative-tactile sensations. When working with consumers, is not required to have them taste unsweetened coffee, but rather have them taste coffee under the normal conditions of consumption (as they would drink it at home or at the espresso bar). This approach allows consumers to taste the coffee with sweetener if they choose. It also allows those running a tasting

panel to accurately detect the preferences of consumers and to record the trends of the market year after year.

## the truths

All of this background serves to lay the foundation for the truths about espresso tasting.

The first: it is irrefutable that the olfactory assessment is the main part of the sensory test. The "mouthfeel," or gustatory-tactile sensations, are important, but flavor determines the acceptability by the consumer because the olfactory stimuli are processed in brain areas closely related to emotion. An olfactory stimulus, therefore, leads to an immediate and highly emotional response by the consumer.

Remember that the acceptability of foods and drinks depends primarily on their aromatic profiles: nothing passes inspection if the nose does not give its approval. The nose is the most direct link between what surrounds us and our subconscious. The aromatic molecules that emerge from the cup are received by the olfactory mucosa and transmitted as signals that are sent to the limbic area of the brain. From here, they will be forwarded to specific brain areas for decoding, but already the shift in the limbic system produces emotions on a subconscious level.

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For example, the smell of smoke and something burned are looped back to the memories of fire, a potential danger to safety, and therefore generally trigger a negative emotion. These are sensations that subconsciously trigger ancient survival mechanisms, the same ones that have allowed our ancestors to travel across hostile environments and propagate the species. No customer will react to an overextracted and burned coffee as if fleeing the threat of fire, but they may unconsciously experience a certain sense of anxiety and adversity against the cup. (For more on the positive and negative aromas in espresso, see the espresso tasting rating card on page 48.)

The olfactory evaluation is the central part of tasting coffee in the Italian tradition. It is also the most difficult because the process is not only about the perception of odors, but also about assigning a semantic label (giving a name to the odor). Practice helps in becoming experienced, as the smells can be learned. Ideally, learning the smells involves binding them to the memory—to life experiences and people you meet—creating a strong emotional bond that is unbreakable. That's why the olfactory memory is stored longer than the visual one: after years, you may have difficulty recognizing the face of a person, but an odor will rapidly call to mind the episode to which it is bound in your memory.

Though there is also a strong attention to the visual aspect of the coffee, tasters must redirect this attention to the nose.

Even the gustative-tactile stage is not as rich in information as the nose is.

Finally, the original culture of an Italian espresso is a culture of blending. A true Italian espresso should be crafted out of a blend of coffee. Blending produces more dynamic and complex flavor and aroma characteristics, and, for some, blending helps mitigate price, quality or availability issues with coffee. But more so than that, blending is a result of a food culture based on the complexity of aromas and flavors.

The aroma of espresso, in both positive and negative components, is closely related to blending. In recent years, the coffee industry has pursued single-origins and has identified some excellent ones. The best single-origins have some obvious sensory characteristics but are deficient in other respects. Single-origins can be wonderful soloists, but to enjoy the opera, you need an orchestra. Many have mistaken these soloists for the one-man-band that can do a little of everything, and this has led to some confusion. The single-origin movement has undoubtedly been instrumental in bringing the coffee industry to a higher level of quality, but it also threatens this same industry, proposing models of espresso based not on a blend but on a single-origin. Single-origin espresso often has a weaker aromatic bouquet than what is required by the Italian tradition, producing a cup that is interesting but shallow.

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Espresso Evaluation (CONTINUED)

Roasters and consumers who are seeking a new sensory challenge may wish to experiment with a blend and investigate the role of single-origins in the blend. Some coffee-producing countries, however, are not able to import beans from other origins due to customs duties or other reasons, and they lose the chance to craft a more complete blend by combining their origins with others.

Research conducted in the Italian market points to blending, rather than single-origins, as the future of coffee. A scientific answer to this interesting question was tabulated during a pilot study conducted by the Centro Studi Assaggiatori (Italian Tasters) in collaboration with the University of Padova. Using the methodology of sensory analysis, 350 blind samples were tested. Consumers were able to discriminate between a blend and a single-origin in a statistically significant manner, and although the tasting group demonstrated considerable interest in "pure" coffee, they preferred the blends over single-origins.

The Italian market is specific and dominated by the idea of the blend. Yet even at tastings conducted around the world, from North America to Asia and throughout Europe, the blend continues to be well-received by consumers. What remains fascinating in the conversation about blends is the idea of the skill and knowledge required to combine the single-origin coffees to create more aromatically complex blends. Also notable is the fact that many non-Italian roasters are taking a renewed interest in blends.

Ultimately, the feeling is that the coffee industry has become more mature with the experience gained by using single-origins and is now better equipped both technically and mentally to return to a serious conversation about blends. If that happens, the next few years should bring to the market a selection of interesting coffee espresso blends: selected, roasted and blended expertly and passionately.

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*Since its inception, the International Institute of Coffee Tasters has conducted hundreds of courses, attended by more than 7,000 professionals and coffee enthusiasts in 43 countries around the world, and has published the manual "Espresso Italiano Tasting," in 10 languages (the most recent is Chinese). The Institute is overseen by a scientific committee—comprised of academics, technicians and professionals—that plans research to ensure innovation. For more information, visit [www.coffeetasters.org](http://www.coffeetasters.org).*

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