Matcha vs Green Tea: Caffeine Compared

From the teas.co.uk wiki

> **Matcha vs green tea caffeine, in summary:** Matcha vs green tea caffeine explained: why whole leaf matcha hits harder per serving, how L theanine changes the feel, and which to choose.

This is one of the most common crossovers between two of our most read guides, the matcha guide and the green tea guide, and it deserves its own page because the short answers floating around the internet are usually wrong in both directions. Matcha and green tea are the same plant; the caffeine difference is almost entirely about how much leaf you actually consume.

Last reviewed by the teas.co.uk team in May 2026.

The key difference: you drink the leaf

With steeped green tea you infuse the leaves and then discard them, so you only get the caffeine that dissolved into the water. With matcha you whisk powdered whole leaf into the water and drink all of it, so you get close to the full caffeine load of the leaf you used. That single fact explains almost everything else on this page.

Cup for cup

A typical mug of steeped green tea lands somewhere around 30 to 50 mg of caffeine, depending on leaf quantity, water temperature and steep time. A standard 1 to 2 g serving of matcha whisked into water lands roughly around 40 to 70 mg, and a strong cafe style matcha latte made with 2 g or more can go higher. So per serving, matcha is usually the stronger hit, but the ranges overlap, and a generously brewed strong green tea can match a modest matcha. Our caffeine guide has the full comparison table across tea, coffee and the rest.

	Steeped green tea	Matcha (1 to 2 g)
Caffeine per serving	~30 to 50 mg	~40 to 70 mg+
Leaf consumed	Infusion only, leaf discarded	Whole leaf, all of it
L theanine delivered	Partial	Higher, whole leaf
Catechins per serving	Single steep only	Generally higher
Effect profile	Gentle, easy to moderate	Sustained, smoother lift

Why matcha feels different even at similar caffeine

Both contain L theanine, an amino acid linked to a composed, clear headed state that blunts the jittery edge of caffeine, but matcha delivers more of it because, again, you are consuming the whole leaf. The result that regular matcha drinkers describe, a smoother and longer lift without the spike and crash, is the L theanine to caffeine ratio at work, not a different kind of caffeine. This is also why matcha is a popular pick in our focus tea guide.

Gram for gram: the lab view

Matcha leaf and sencha leaf carry broadly comparable caffeine when measured dry, because they are the same plant. The reason matcha delivers more per serving is purely that you ingest the whole leaf as powder, while steeping extracts only part of it into water and the spent leaf is thrown away. This is also why a second or third steep of green tea tapers off in caffeine, whereas every gram of matcha you whisk in is caffeine you drink. Shading the plant before harvest, the technique that defines both gyokuro and matcha, also pushes caffeine and L theanine up, which is why a shaded powder feels stronger than a sun grown leaf even before you account for whole leaf consumption.

Which should you choose

If you want the gentlest caffeine, a short steeped green tea is the lowest dose option and the easiest cup to moderate. If you want a sustained, clear lift and you are happy with the whisking, matcha is the better tool, and ceremonial grade whisked thin is the cleanest way to drink it. If you are caffeine sensitive or pregnant, treat matcha as a stronger serving than a teabag and count it accordingly; the pregnancy guide covers safe limits. The practical dosing rule is simple: judge a matcha serving by grams of powder, not by cup size, because a small intense bowl can carry more caffeine than a large weak mug of steeped green.

Common questions

Which has more catechins? Same logic as caffeine: per serving, drinking the whole leaf means matcha generally delivers more catechins than a single steep of green tea.

Does matcha cause a crash? Less so than an equivalent coffee for most people, because the L theanine smooths the curve. A very strong matcha can still be too much late in the day.

Best for an afternoon lift without ruining sleep? A modest, well whisked matcha earlier in the afternoon, or a short steeped green tea, both beat a large coffee for staying clear without the wired feeling. See our focus guide.

Is matcha more natural than green tea? No. They are the same leaf prepared two ways. The dose is set by how much leaf ends up inside you, not by one being purer than the other.

Matcha grade changes the comparison

Not all matcha is the same drink, and the grade matters more than almost any other variable once you are past the whole leaf basics. Ceremonial grade is made from the youngest, most shaded leaves, stone ground fine, and is meant to be whisked thin in water; it is sweeter, smoother and the cleanest way to taste what matcha actually is. Culinary grade is coarser, more astringent and made to stand up to milk and sugar in a

latte, where its rougher edges are masked. When people say matcha "tastes bitter and like grass", they have almost always had a dull culinary powder whisked badly, not a fresh ceremonial one drunk properly. Against steeped green tea, a good ceremonial matcha is not just a caffeine question; it is a different drink altogether, denser, more savoury, more sustaining. A cheap stale matcha, by contrast, can be both harsher and weaker than a well brewed sencha, which is why "matcha versus green tea" is unanswerable without saying which matcha.

Brewing each so the comparison is fair

Most online arguments compare a carefully made matcha against a carelessly made green tea, which is not a fair fight. To judge them clearly, brew the green tea properly: water well off the boil, around 70 to 80 C, a short steep of one to two minutes, and enough leaf to give real strength rather than a thin, apologetic cup. Brewed like that, steeped green tea is far closer to matcha in satisfaction than the usual scorched, bitter version suggests, and the gap narrows to roughly what the whole leaf caffeine maths predicts. Equally, a matcha whisked lump free in water you can comfortably keep a finger in, not boiling, shows its sweetness instead of its astringency. Compare two well made cups and the real difference is intensity and duration, not one being good and the other bad.

The short version

Per serving, matcha generally beats steeped green tea on caffeine, often substantially, because you ingest the whole leaf. The experience differs because the L theanine comes along for the ride. Neither is more natural than the other; they are the same leaf, prepared two ways, with the dose set by how much leaf ends up inside you. If matcha is the drink you want, freshness and grade matter enormously: browse matcha at teas.co.uk, the gentler green tea range, a proper ceremonial grade for whisking thin, or the full tea shop. Choose matcha or green on the cup and description and the price of each cup; above £35, UK delivery costs nothing.

Related on the wiki: Caffeine in Tea FAQ, Hojicha Caffeine, Explained, Hojicha vs Matcha, Explained, Tea Caffeine vs Energy Drinks, Explained, Herbal Tea vs Green Tea, Explained, Sencha vs Matcha, Explained, Hojicha Roasted Green, Green Tea Caffeine.

Reference noted

- EFSA Scientific Opinion on the Safety of Caffeine (2015)
- NHS guidance on caffeine

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