Green Tea: Caffeine by Type, Explained

From the teas.co.uk wiki

> **Green tea by type, in summary:** Green tea has less caffeine than black because it is less processed and brewed cooler; the figure varies by type, with matcha the outlier.

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

Green tea contains 25-45mg of caffeine per 200ml cup, roughly two thirds of black tea. Matcha is the exception, at 60-70mg per bowl it actually exceeds many black teas because you consume the powdered leaf. The "green tea is low caffeine" claim is true relative to coffee but smaller than most assume relative to black tea.

The numbers by green tea type

Green tea	Caffeine per 200ml
Tetley Pure Green (bagged)	~30-35mg
Twinings Pure Green	~30-35mg
Sencha (Japanese, loose)	~30-50mg depending on grade
Gyokuro	~50-70mg (shaded leaf, more caffeine)
Long Jing / Dragonwell	~25-35mg
Bancha / Hojicha	~10-20mg (low grade or roasted)
Genmaicha	~10-25mg (diluted by toasted rice)
Matcha (1 tsp whisked)	~60-70mg (whole leaf consumed)
Decaf green	~2-5mg

Why green tea has less caffeine than black

The plant is identical (*Camellia sinensis*), it's the processing that differs. Black tea is fully oxidised, which doesn't change caffeine content but does increase extraction efficiency in hot water. Green tea is also typically brewed at lower temperatures (75-80°C instead of 95-100°C), which reduces caffeine extraction further. Time and temperature matter more than the leaf itself.

L theanine and the "cool head" effect

Green tea has the highest L theanine content of any tea type. The L theanine + caffeine combination produces measurable relaxed focus, alert but not jittery. Multiple double blind studies confirm improved attention and steadier focus vs caffeine alone. This is why green tea drinkers often report feeling "less wired" than coffee drinkers at similar caffeine doses.

Matcha, the caffeine outlier

Matcha caffeine is misunderstood. A standard 1 tsp serving (2g) of matcha whisked into 100ml water delivers 60-70mg caffeine, higher than most bagged green or black teas. Because you consume the entire powdered leaf rather than steeping and discarding, you ingest more of the leaf's compounds. The L theanine is also higher in matcha for the same reason; the cognitive effect is correspondingly stronger.

Brewing changes everything

Green tea brewed correctly (80°C, 90 seconds) extracts ~70% of available caffeine. Brewed badly (boiling water, 4 minutes) extracts close to 100% but also over extracts catechins and produces a bitter cup. The "right" green tea brew for both flavour AND caffeine balance is 80°C for 1-2 minutes.

Pregnancy and green tea

NHS guideline: 200mg caffeine max daily. A Tetley Pure Green at 30mg fits comfortably; 4 cups would be 120mg, well within the limit. Matcha is more caffeinated, 2 bowls hits 140mg, closer to the daily ceiling.

Iron absorption: green tea tannins reduce non heme iron absorption by 60-70% if drunk with meals. Pregnant drinkers (especially vegetarians) should drink green tea between meals.

FAQ

How much caffeine is in green tea? 25-45mg per 200ml cup typically. Matcha higher (60-70mg per bowl).

Does green tea have less caffeine than black tea? Yes, by ~30%. Real but smaller than commonly assumed.

Why is matcha higher in caffeine than other green tea? Because you consume the powdered whole leaf, not just an infusion.

Best low caffeine green tea? Hojicha (roasted Japanese green) at ~10-20mg, or Genmaicha at ~10-25mg.

Curator's note: green tea's caffeine reputation is half true. The numbers are slightly lower than black; the L theanine makes the cup feel much gentler. Lee, teas.co.uk.

This is general information, not medical advice. Compare across the green tea range, read the wider caffeine in tea guide, or browse the full tea shop.

Reference noted

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

FROM THE CURATOR

teas · Match the tea to the moment. Pick a stronger green for 6am and a lighter one for 4pm; they need not be alike.

Green tea types reading

- Green tea (the pillar)
- Caffeine in tea
- Matcha
- Green tea benefits

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