

Caffeine Content of Coffee: Dark Roast vs. Light Roast

Which contains more caffeine: dark roast or light roast coffee?

Coffee beans are roasted to different degrees to produce specific flavors, but whether the process affects caffeine level is a question many of us in the test kitchen have also had. We rounded up a bag of green coffee beans and a home coffee roaster and then brought half of the beans to a classic light roast and the rest to a dark roast. After grinding the batches separately in a burr grinder, we brewed two pots of coffee, using the same volume of ground coffee per batch (1/2 cup per 3 1/2 cups of water), and sent both to a lab for testing. When the results came back, we learned that the light roast had much more caffeine than the dark roast—60 percent more in this particular case.

Perplexed, we decided to see what would happen if we measured the ground coffee by weight instead. We made two more pots to send to the lab, measuring out 1 1/2 ounces of ground coffee per 3 1/2 cups of water. As we added ground coffee to the scale, we noticed that it took 2 1/2 more tablespoons of dark roast than light roast to reach 1 1/2 ounces. Nevertheless, when the results came back, we saw that both pots had virtually the same amount of caffeine.

It turns out that as the beans roast, they lose water and also puff up slightly—and the longer the roast time the more pronounced these effects. Dark roast beans will thus weigh less (and be slightly larger) than light roast beans. When the ground beans are measured by volume, the light roast particles will be denser, weigh more, and contain more caffeine than the dark grinds, producing a more caffeinated brew.

THE BOTTOM LINE: The only way to ensure that you're getting the same amount of caffeine with different roasts (all other variables being equal) is to weigh coffee. If you measure by volume, you'll end up with more buzz with a light roast than with a dark roast.



LIGHT ROAST = HEAVY CAFFEINE

Because light roast coffee is roasted for less time, it's denser and heavier than dark roast. As a result, each particle of ground light roast contains more caffeine than a particle of ground dark roast. When equal volumes are measured, the light roast will thus pack more caffeine.