

ROASTING

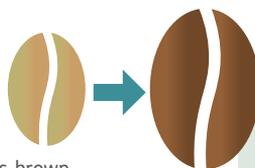
THE ROASTING PROCESS: A DEFINITION

Coffee roasting is a process of heat transfer to green coffee beans that goes back centuries: its history is very ancient and is found for the first time in legends like the shepherd Kaldi's one. Why do we roast coffee? The answer is quite simple: the green bean, or the seed of the coffee plant, when it is raw has no special flavour characteristics. If we prepare an infusion by boiling the raw seeds in water, we obtain a slightly coloured pale green drink, transparent, with a vegetable/herbaceous flavour. Once roasted, instead, the coffee bean becomes fragile, easy to grind, and if boiled in water allows the preparation of a pleasant and fragrant beverage with a persisting aftertaste. During coffee roasting hundreds of new chemical compounds develop, what makes the beverage a delight for our senses. Roasting is substantially 'cooking' the green beans through the heat transfer for a given time. The roasting process is essentially divided into three main phases: the initial one, drying, when the bean loses most of the moisture content and becomes yellow/cinnamon colour; the next one, the real and proper roasting phase, in which the most important chemical reactions occur and coffee assumes a brown colour; finally the cooling phase, during which the roasting process is interrupted and the beans are brought back to room temperature. The roasting process involves heat transfer to the green bean through the aid of a heat source, which can be electric or gas, in a roaster. The traditional roasting, in the so-called drum roasters, consists in subjecting the beans to a heat source that gradually increases within a rotating



Roasted Arabica coffee samples in a tasting lab.

Coffee roasting



Color: the bean from green becomes brown

Volume: the bean increases 50-100%

Weight: loss 15-20%

Caffeine: % should remain the same

CO₂: it is produced during roasting and then released during the degassing phase

Aromas: hundreds of new chemical and aromatic compounds are produced

Light colour: high acidity, less body

"Tonaca di frate": acid/bitter pleasant balance, sweet and good body

Dark colour: high bitterness and intense body