



# Home Coffee Roasting

Another MoreManual!

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Coffee roasting is a pretty straightforward process – and using both audible and visual cues, you will be able to easily and consistently produce great roast results.

## **Step 1: Weighing out the beans**

Depending on the roaster you are using, it is important to use the proper quantity of beans for which the roaster was designed. Too few beans and they will move too quickly (and will therefore not get enough heat to roast properly) and too many beans can end up overheating your roaster – which is never good.

## **Step 2: Preparing the Roaster**

It is important to ensure that your roaster is clean and ready for the roast. Make sure that there is not excessive oil or residue on the inside of the roasting chamber and that all *chaff* (a fine paper-like skin which comes off of each bean during the roast) has been removed from the catch.

## **Step 3: Setting the Roasting Time**

The temperature at which your roaster actually roasts is dependent upon the voltage it is able to draw from your circuit – therefore, it may take a bit longer to roast on a hot Summer’s day when everyone is running their air conditioners, for example. Because of this, you will notice that occasionally, a roast that is usually done in 7 minutes ends up taking 8 or 9. As you set the roast time for your roaster, you may want to keep this in mind.

## **Step 4: The Roast**

As the beans are roasting and start to change color, quite a cocktail of complex chemical reactions is taking place. The beans will begin to turn yellowish-brown and will give off a hay-like, grassy aroma. Inside the bean, the water becomes steam and is expelled – which dramatically reduces the bean’s weight and causes it to expand. As the beans roast, caramelization occurs and sugars and amino acids react as oils begin to migrate outward, causing the bean to appear browner. Shortly, you will begin to hear loud “popping” and “cracking” noises coming from the roasting chamber – which marks the *first crack*. During this time, the internal structure of the bean begins to fracture and the reaction changes from being endothermic to exothermic – that is to say, the bean starts to give off more heat than it is taking in. In addition, *chaff* will begin to come off of each bean. As the beans continue to roast, they will stop cracking for a short period of time, which is an indication that the *second crack* will soon start. At any time between the first and *second crack*, you can stop the roast – depending on how you like your beans. When the *second crack* starts, you will again begin to hear loud “popping” and “cracking” noises. At this stage, the bean begins to visibly fracture indicating that all water has evaporated from the bean. Small pieces of bean will begin to “fleck” off and the bean will start becoming oily and charred. It is important to note that as you roast beyond the *second crack*, more delicate flavor and aroma compounds that make your coffee more complex and interesting will be burned off. With that said, your ideal roast will be somewhere between the *first crack* and *second crack*, but probably closer to the *second crack*. As you get more experience with roasting different types of beans, you will become better at gauging when the bean is ready. The great thing about home roasting is that the term “ready” is completely dependent on your own tastes and preferences. You can have your coffee as lightly or darkly roasted as you want!

## **Step 5: Cooling**

Once your beans have achieved your preferred roast level, it is time to cool them down to prevent further roasting and put an end to the reactions taking place within the bean. Cooling your beans is a crucial step in the roasting process and all of the roasters sold by *MoreCoffee!*™ have a cooling cycle that can either be left to start on its own, or started manually at your discretion. Once your roaster’s cooling cycle has completed, your beans are sufficiently cooled and ready to de-gas.

## **Step 6: Degassing**

Over the next 12-24 hours, your freshly roasted beans will produce and expel a significant amount of carbon dioxide and will also develop quite a few flavors that are not present immediately after roasting. You can see this taking place by putting your freshly roasted (and cooled) beans in a zip lock bag and sealing it. The next morning, you will see that the bag has filled with carbon dioxide. As the rate of CO<sub>2</sub> expulsion decreases, however, the beans become more susceptible to oxidation – which can dramatically reduce the quality of your coffee. Therefore, you will want to actually grind your beans and brew your coffee at the peak freshness – about 24 hours after the roast. After about 3 days, your beans will start to lose noticeable freshness.

## **Notes and Comments:**

Although the time setting on your roaster helps give you an idea of how far along the roast is, the *first crack* and *second crack* will ultimately be the best indicators of a good roast. If you stop the roast right at the *first crack*, your coffee will most likely taste overwhelmingly acidic and sweet. If you roast too far beyond the *second crack*, your coffee will taste more and more burned (after all, it is essentially becoming charcoal). Contrary to common belief, lightly roasted coffee actually has more caffeine than darkly roasted coffee. Caffeine is burned off as the beans are roasted, which means that your beans have the most caffeine in their raw “green” state – before they are even roasted. Also, darkly roasted beans are not “stronger” – just more burned. The strength of coffee comes from the quantity with which you brew and, as such, you can make a strong coffee with any level roast. Most important, however, is your enjoyment. Find what you like and stick with it – and give us a call at 1-800-600-0033 if you have any questions.