Coffee Roasting Minimalism

BOWL, SPOON AND A HEATGUN

This is not necessarily how to get the best out of a roasting method or really even how to roast it is as much a primer to get in and give it a go without spending much money if any. Beg or borrow a few bits if you don't have them and give it a bash the results may just surprise you. Revised from Forum posts of mine in 2011.

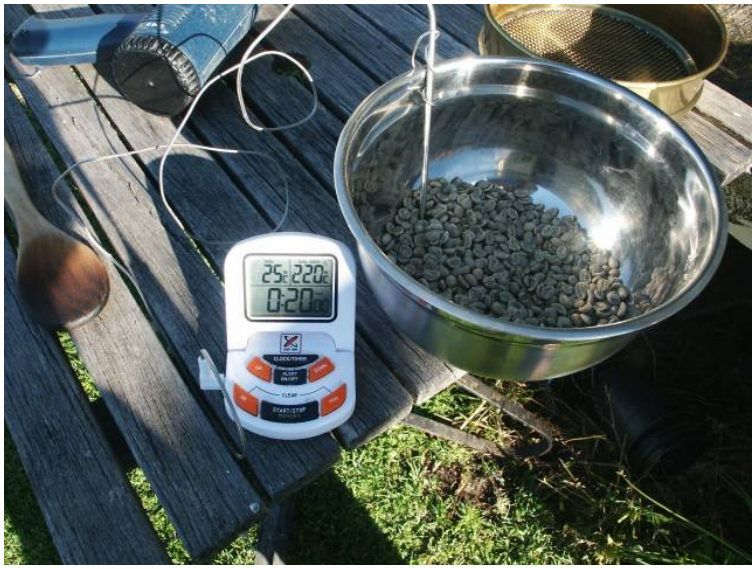
Entry level low to no cost gear:

1: Stainless Steel Bowl preferably high sided like the one shown, also rubberised base is good.
2: Sacrificial/dedicated Wooden spoon it will get blackened and pick up coffee oils.
3: Kitchen Timer or better yet one as shown with a temperature probe as well as used below.
4: Paint Stripping gun these days available cheap from a range of sources.
5: Oven or welding glove, spoons, bowls and strainers get hot at 200 degrees.
6: Kitchen strainer or mesh sieve for cooling.

Beans – From me @beanflying or other Coffee Roasters may sell you small lots too, don't worry to much about the range there is hundreds but if in doubt ask for an easy one to get going suppliers will know what to give you.

Before the roasting begins.

Start with 250-300g works best. To little and it's harder to roast evenly and consistently, to much and they will escape over the sides.



Basic Gear ready to start.

Slightly high Tech, Kitchen timer with a Temperature probe just to help keep the roast in check. Not needed but worth it. Probe tip needs to be in the beans.

The Plan.

Take your Green Beans warming them over 12-16 Minutes at a fairly consistent rate. Green to Yellow to Pale Brown to a more Roasted Coffee looking Brown.

During the roast and what should happen and about when.

Generally the following times are a reasonable starting guide and ALWAYS the temperature should continue to climb throughout the roast. But as a rule of thumb 8-12 minutes to First Crack (FC) then 4-6 minutes to Second Crack (SC) or the end of the roast at 14-16 minutes total time. The Beans need to be stirred continually throughout the process if left unstirred the roast will be uneven and scorched or burnt beans may result.

0 Minutes Start with the heatgun on maximum and use the distance from the beans to control the amount of heat going in (KISS) 100-130mm from the beans is a good idea if you are behind go closer to a minimum of maybe 50mm. Any closer and you will burn the outer of the beans and not roast them through. **Timer was set to 20 minutes countdown.

3 Minutes in and sitting around 100 degrees, the beans are green to pale yellow. Vary the distance a little if needed.

5 minutes in and above 130 degrees. Starting to go from Yellow to pale brown. Moisture and a little chaff (like peanut outer husks) start floating around.

11 minutes in and post FC (Also refered to as RFC or Rolling First Crack) - the beans have given off a distinctive snapping noise along with losing a lot of any remaining chaff here. Also a little smoke starts to come off the roast. Also ease up on the heat a little at this point as they beans start to give heat back to the roast (Exothermic). So raise the Gun Slightly.

When to end the roast

This question along with the rest of the timings from above is worthy of a book or two. Basics are generally lighter for Brewed Coffee like Plunger or Darker for Espresso. Taken further than this roast the Beans will get to to ‘Second Crack’. Generally these are softer and may be a little hard to hear but this stage is accompanied by a fair bit of smoke and if you keep going FIRE 15-16 minutes I find is a sensible ‘start point’ to roast in. This roast for brewed coffee was pulled at 15 minutes and just on 200 degrees then placed in the sieve and Stirred a little as they cooled.

Cooling

This is important to finish the roast at the point you want, heat within the beans or bean mass will continue the roast unless you cool them fairly rapidly. The Sieve above or Kitchen strainer is needed and best to agitate the beans or even blow air over them in the breeze or with a fan. Lots of home roasters use custom built coolers for this task.

Post Cooling and a fairly even roast in spite of taking pics along the way. It is important to keep stirring all through the roast and not use the stirring hand to take photos.

POPCORN POPPER

No this is not a joke it really does work. While this might sound like a strange bit of gear to roast coffee in it is probably the easiest way of all the cheaper methods to have a bash. My Popper was under $20 of ebay and came with a 'free' bag of popcorn. But Secondhand shops or even buying a new one isn't going to be a lot of money.

Not all poppers are equal, some will roast way to fast and they can be a little prone to early onset failures. There is also a heap of people who have played with poppers to extremes if you want to google search 'Coffee Roasting Popper' will find you plenty to look at. Personally I wouldn't bother but each to their own.

The popper I have runs around 6-10 minutes depending on the quantity of beans used but generally 80g works. Experiment with your standard one between 60-100g for a start. Beer is purely optional but in 30 degrees it helps find your inner roaster.

Most important bits are spoon 'handle' for a little agitation while starting, popper and the sieve for cooling. Timer is more of a check as you have fairly limited control over the roast.

Inside the popper chamber. The vents visible are important as airflow is used to circulate the beans and prevents scorching the lower ones and leaving the uncooked ones on top.

80g of beans approximately 1/2 a cup by volume if you don't have scales. Side note not all beans are the same size and do vary in density this also plays a factor in perfecting the roast down the track.

The airflow as mentioned above will keep the beans going, I find that until the beans start to swell and get to FC a little additional stirring helps a lot to keep the beans in motion. Another technique I have seen used is to hold the popper on a bit of an angle initially to help the movement of beans.

Slight colour change before FC from Green to Pale Yellow, notice the volume change between the photo above. By this stage the beans have reduced in density to circulate by themselves.

Nearly at SC (second crack) beans have further increased in volume and colour is approaching what you would typically recognise as Roasted Coffee.

If your roasting with this method is under say 4 or 5 minutes then it is less than ideal so time to look at modding your popper a little or adding some more beans to slow it down.

Storage

With your first few experiments unless you have a few coffee bags saved up or have purchased some for the job do the following until you get some. Please note ALL vacuum coffee savers are a bad idea! Freezers and fridges are also a generally a bad idea! The beans while resting prior to consumption they give off CO2 gas so a sealed Jar is potentially a danger so go for a heavy weight plastic bag with a wire tie and place them in a dark cool cupboard. This while not as good as dedicated valved bags is better than an open container and not dangerous like a jar and lid.

When to use your roasted beans

Another one of those contentious issues and it varies wildly depending on bean roast level and personal taste. Start with 4 or 5 days with most and experiment but some beans may need 2 weeks+.

As I started above this is not supposed to be comprehensive or the complete doctrine (several years in and I know relatively NOTHING) on roasting but just to say get in have a bash, take some notes taste refine and do it again and improve.

The key thing to me is roasting is fun and a learning thing whatever method you use, there are no right and wrong answers it is part science part technique and a lot of practice and refinement.