

## Part II: Coffee Roasting

### About Roasting:

For those new to roasting coffee, it is in many ways easier to do than barbecuing a steak and slightly more difficult than boiling water, all because of the senses. First, you can *see* the transition of the beans going from green to brown. You can also utilize another sense, that of sound. In the case of coffee beans, Mother Nature provides a natural “pop up thermometer” *per se* via sounds of cracking at defined points in the roasting process. Lastly smell. Distinct changes in fragrances occur, as the beans progress through the various stages of roasting.

Coffee beans go through changes as the internal temperature rises. As the beans hit a light tan stage, the bean has expanded and the aroma changes from that of grassiness to that of sugars caramelizing. This is nature’s way of preparing you for what is about to occur: the first crack.

The terms first crack and second crack are terms frequently used in coffee roasting and defined as:

**First Crack\*:** The first distinct – albeit sporadic -- sounds indicate that roasting is beginning to occur. Beans start to emit their water content via steam as sugars within the bean start to caramelize. The bean structure itself starts to change with bean expansion.

**Second Crack\*:** The second distinct set of sounds will also be initially sporadic, but usually more pronounced than the sounds of the first crack. Beans have expanded to their largest point and in some cases tiny bits of bean will explode away from the bean. If allowed to continue into second crack the sporadic nature of cracks will then sound similar to rice cereal after milk has been added. Smoke increases dramatically at this point.

### The progression from 1<sup>st</sup> crack to 2<sup>nd</sup> crack.

The first series of cracks will last somewhere between 1-1.5 minutes depending upon on bean type and quantity of beans being roasted. Think of this series of cracks as your alarm bell. Your coffee is now tan and, depending upon ones own tastes, or bean type, can be stopped from this point on.

The beans then go silent. During this period, the coffee is taking on more of its distinct flavors, darker colors, the roasting cycle can be stopped and cooling begun, depending upon one’s own tastes and bean type.

If you’ve chosen to try a darker roast you’ll then start to hear cracking sounds start up again. This is the second crack. Again, the sounds will initially be irregular. Now is when most of the greatest nuances and flavor characteristics emerge.

At this time manual cooling can be started if the timer hasn’t run down to default into cooling.

\*Most excellent single origin coffees and some blends invariably show their greatest character when sent into the cooling stage at the start of or at a point just prior to the second crack.

Should you decide to allow the roast to continue into second crack, the snapping sound will become very rapid and similar to that of rice cereal. Care must be taken at this point to be ready to press the cool button, as smoke levels will rise rapidly. **If heavy smoke is seen, begin cooling immediately.**

If you do choose a darker roast where oils are present, simply let the beans continue into the second crack. We strongly recommend you reduce the amount of coffee you are roasting to ½ pound or less for darker roasts. **Never roast past 10 seconds into 2<sup>nd</sup> crack. If heavy smoke is seen, begin cooling immediately.**