Sweet Maria's
home coffee roasting
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General Home Roasting Observations for the **Hearthware i-Roast** *from Sweet Maria's*

Roasting is fun. It's as easy as you want to make it, or as exacting and technical as you care to be. Pay attention to the process, especially toward the end of the roast. The roasting process unfolds slowly at first as the coffee loses moisture and turns to a yellow, then tan color. But later in the roast, each few seconds that pass have a large influence on the flavors in the cup. You can roast too dark, burn the coffee and damage the roaster, **so never leave a roaster unattended while in use!**

- Coffee roasting produces a nice fragrance, unobtrusive with light roasts but smokier if you roast dark. Operating any type of stove hood fan helps if the smoke is too intense for you. (The metal ring that comes with the roaster is for attaching 4" vent, if desired). You can roast on a porch or near a partially open window, weather permitting. Cold temperatures will severely effect the roast, and may make the roast stall completely.
- Roasting produces chaff. Chaff is a fine skin that detaches from the bean as your roast is agitated. Your roaster collects the chaff, but expect a little to escape. Empty the chaff collector between every roast and brush it out to get perfectly consistent results. For safety, the roaster will not start if the roast chamber is not rotated into the locked position by turning the roast chamber clockwise on the base.
- Built-up coffee oils in the roaster are of no real consequence until they impede visibility or become a fire hazard. (In fact, a professional drum roaster requires hours of roasting initially to properly "season" the drum.) Do not clean your roaster too often. Clean the top screens when they get clogged by soaking in a degreaser.
- Batch size is critical in any roast process; if the amount of coffee you put into the roaster varies, the roast will vary too. Ideally, it is best to roast by weight, not volume. I use 130 to 150 grams or 6 ounces by volume per batch. With air roasters, the amount of chaff a coffee produces will change the roast results because chaff blocks up the collector and restricts air flow. A decaf, with little to no chaff, needs MORE roast time, while a coffee with a lot of chaff, a dry-processed coffee for example, may need less time.
- The i-Roast comes with two pre-set programs: PRE 1 and PRE 2. You can add time to a roast that seems to be finishing too light (you can only add time in Stage 3 of the process), and of course you can always hit to COOL button to stop a roast early. To get the exact degree of roast, it is always preferred to manually stop the roast (by hitting the Cool button) when you see, hear & smell the signs of that roast you prefer! Trust your ears and senses to get best results... Start out by setting long roast times and stopping the roast manually to get a feel for how the roaster is operating on your specific household voltage. (Yes, it makes a difference! Household voltage varies greatly from 106 to 130 in the U.S.)
  I prefer to dump the coffee into a stainless mesh colander after the cooling cycle completes, just to get the coffee away from the warm metal/glass surfaces. When the coffee is room temp. I transfer it to canning jars. Coffee is better after 4 hours of "resting", which allows the CO2 to de-gas from the coffee. It is at its flavor peak at 12-72 hours. When you open the jar, you will know what I mean!
- The iRoast has a tighter fit between the top roast chamber and bottom; when new it can be difficult to attach. Push down firmly on the top while you turn the roast chamber -it is spring-loaded. The extra metal ring packed with the roaster attaches to the top of the chaff collector and allows you to hook up a vent hose during roasting, directing the smoke to a stovetop hood or window. Venting will change the roast times/degree of roast so keep that in mind...
- Hearthware provides an excellent warranty --your order confirmation is proof of purchase. Call them directly 888 689 2831 if you ever have a mechanical problem with the roaster. And READ their instruction book!!!

In a nutshell, here is the roasting process you will be observing:

- For the first few minutes the bean remains greenish, then turn lighter and emit a grassy smell.
- The beans start to steam as their internal water content dissipates.
- The steam becomes fragrant. Soon you will hear the "first crack," an audible cracking sound as the real roasting starts to occur: sugars begin to caramelize, bound-up water escapes, the structure of the bean breaks down and oils migrate from their little pockets outward.
- After the first crack, the roast can be considered complete any time according to your taste. The cracking is an audible cue, and, along with sight and smell, tells you what stage the roast is at.
- Caramelization continues, oils migrate, and the bean expands in size as the roast becomes dark.
- At this point a "second crack" can be heard, often more volatile than the first. Small pieces of the bean are sometimes blown away like shrapnel! It can be more difficult to hear than the first crack though.
- As the roast becomes very dark, the smoke is more pungent (oils burn against the hot surfaces of the roast chamber) as sugars burn completely, and the bean structure breaks down more and more.
- Eventually, the sugars burn completely, and the roast will only result in thin-bodied cup of "charcoal water."

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Understanding the **i-Roast** Program Temperatures
and Onboard Thermometer Readings:

The **i-Roast** will let you create your own roast program. I would use the pre-sets (PRE 1 and PRE 2 buttons) to get acquainted with the machine's functions and remember, you can customize the overall roast time on each of these pre-sets. To find out how to use the custom program function and to adjust the roast times on the pre-sets, see the i-Roast manual. There's a trick to using the custom programs: the temperatures you program are not the temperatures you are going to read on the thermometer during the roast. This is going to take some getting used to, but after a few trials you will see the correlation. The actual onboard thermo temperature seems to be about 40-50 degrees lower than what you program, but can be more. So when you set warm-up max temperature and you want to see 380, you will have to program in 430, roughly. But the other factor is the air flow pattern - the roaster uses a high velocity air flow which tends to lower the overall roast chamber temperature. I like this for the first stage because it aids in even roast development. The temperature read out is just one indicator of the roast - not the only indicator! Look, listen, smell and most of all taste are important too.

In general, a setting of 320-400 degrees is good for a warmup period and is not going to get the coffee into first crack. Settings of 450-470 degrees are going to slowly get the coffee into the first crack range and beyond (First crack occurs with onboard temp. readings of around 375-380 on my test roaster). If you can avoid using the highest temperatures, 480 to 485, do so ... but if you need them to get the kind of roast you are looking for then they are there to use!
If these conflicting temperature settings/readings seem odd, remember that the numbers are not the important thing ... what you want is for coffee to progress evenly and steadily through the roast stages, not too fast or too slow. The i-Roast does okay with the pre-sets, and with the custom programs you can truly get one-of-a-kind roast results. Don't program a roast that advances to a stage of roast (such as the medium brown color just before 1st crack) and then stall there for a long period of time. Keep the coffee moving, slowly and steadily, through the roast stages. With darker roasts, try to have a "controlled" end of roast, which is indicated by a defined pause between the end of the "first crack" and the beginning of the "second crack." (Another indicator is a slow and controlled sound of second crack, not a super-rapid snapping.)

- **Temp/Time information on Preset:** *check the web site – Hearthware just changed the factory Presets!*

City/City +: Here is the profile that I use to roast almost all the samples I have to a city or city + roast (a bit lighter than probably most folks like their coffee);

- Total time: 9:30 min Stage 1: 350 F/2:00 min.; Stage 2: 400 F/3:00 min.; Stage 3: 460 F/4:30 min. My batch size is 130 to 150 grams, about 6 ounces. A bit less than what HW recommends, so try both and see what works better for you.

Island Coffees: Coffees from Jamaica, Hawaii, and to a lesser degree Puerto Rico, and benefit from a lower initial temperature during the warm-up time. Here is the program I am currently using for a City to City+ roast:

- *Stage 1: 350 degrees f for 3 min. (= 310 f onboard thermometer reading); * Stage 2: 400 degrees f for 3 min. (= 360 f onboard thermometer reading); *Stage 3: 450 degrees f for 3 min. (= 375-390 f onboard thermometer reading);

Brazil/Coffees for Espresso: Like the Island coffees, Brazils come from lower elevations. They benefit from a slower warmup and a longer overall roast.

- Stage 1: 350 degrees f for 3 min. (= 310 f onboard thermometer reading); *Stage 2: 460 degrees f for 3 min. (= 370 f onboard thermometer reading); *Stage 3: 470 degrees f for 4 min. (= 390 f onboard thermometer reading);

Northern Italian Espresso: simply follow the Island curve above but change stage 3 to 470 degrees at 5 minutes or more (better to set a higher time, than stop the roaster manually using the Cool button.)

Decafs in the i-Roast: Since decafs produce very little chaff, they tend to under-roast in the i-Roast. They are going to need hotter temperatures and/or more time. A trick *(only for decafs!)* is to leave the chaff from a previous normal roast in the chaff collector! It helps to roast 1/3 or 1/2 less in each batch too.

See the iRoast manual. This instructs you in custom programming. I know, the process seems overly complicated the first few times you do it. And they certainly could design the buttons to be easier to use. But once you do it a couple times it is much easier.