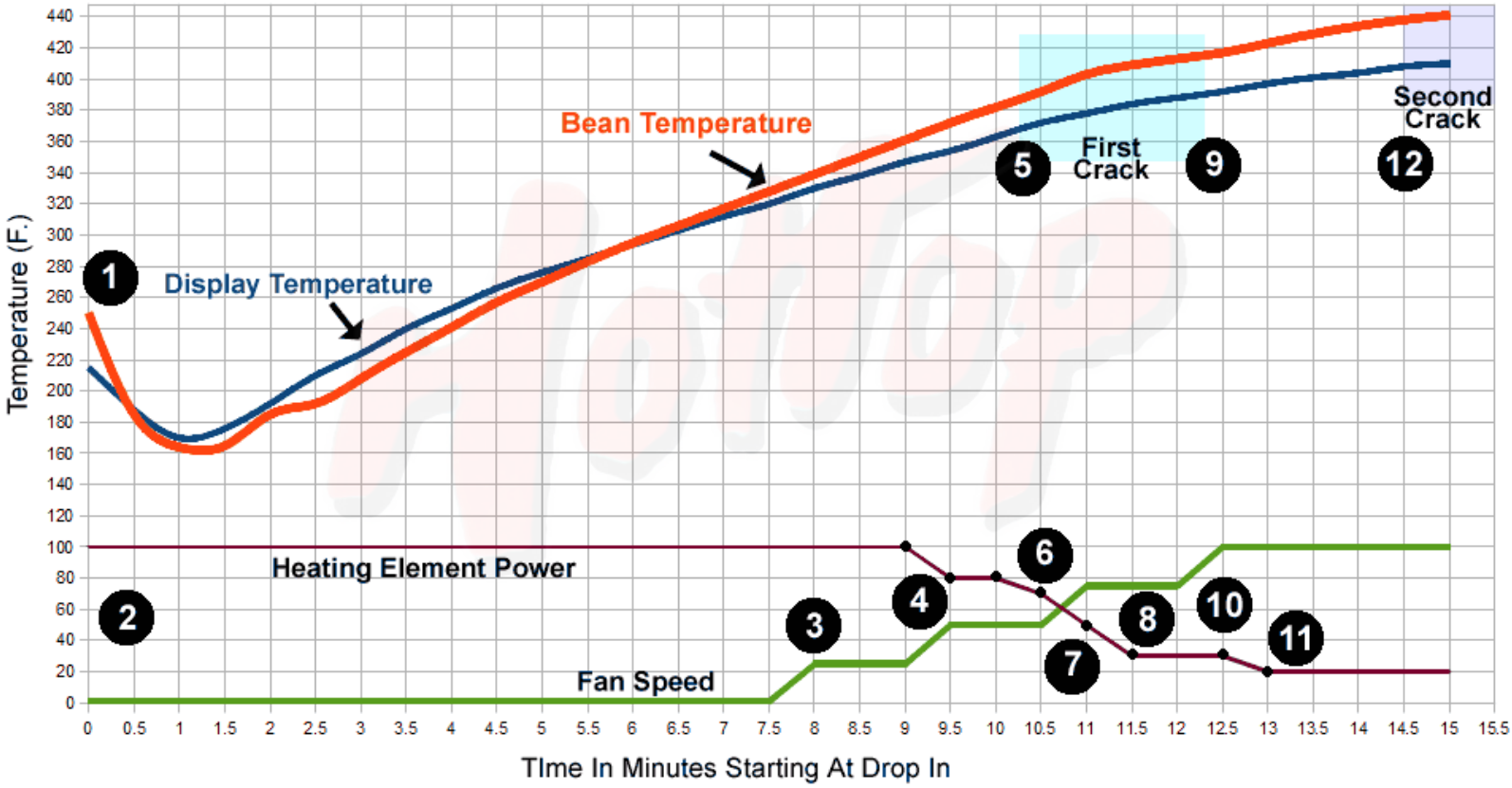
Hottop Profile #2 for the KN-8828B2-K *1 Hottop

Coffee roasting is a complicated process in many ways. The basics of adding heat to beans is simple, and the Hottop roaster makes it even easier. When a new home roaster is starting out with the Hottop Coffee Roaster they can just hit the start sequence and let the roaster take care of the rest in "Auto" mode. Roasted beans are the destination, but the roast profile is the journey, and depending on that journey, the destination can reveal many different worlds.

The previous article (Roast Profiling with the "B") makes a good cup, but to some it leaves the coffee a little flat in taste, and accentuates the caramel flavors while muting the sweetness and some of the fruity notes and acidity. This article gives you another profile that takes a different "road" to the destination. This one maintains the acidity and sweetness better than the previous method.



Here is the graph of the roast I completed for this article. Follow the graph using the explanation below. The numbers in the paragraphs below refer to the number in the black circles on the graph:

Start out as you normally do. Check to make sure that the chaff tray is clean and that no beans are left in the drum (they stick sometimes and will char). Pre-measure 250 grams of your desired coffee, program the manual mode to maximum time and maximum temperature targets, and start the roast. *4

(1) The roaster will signal you to add the beans at 168F., *2 but don't. Allow the roaster to heat just a bit longer and add the beans at around an indicated 215F. Also start a stopwatch or count-up timer when you add the beans so that you have a time reference which agrees with the time on the graph.

When you add the beans, the time remaining will be approximately 24:00 at 215F. If you keep track of time or temperature, start at around this point in order to match your needs. I started this roast at 24:00 and recorded the temperature in order to make data gathering a little less confusing for me as I recorded the data for the graph.

(2) Monitor the progress as always, and if the programming of the KN-8828B2-K attempts to make changes (fan speed or heating element power), override them, keeping heat at 100% and fan at 0%. Don't panic when the program makes a change. Just select the function and reset it using the control panel's buttons. When I start a roast I scroll to select fan speed as the selected setting so that it is ready to change if need be. Then I cycle through as needed. Other than that, sit back and enjoy for a bit. There will be little to do for the first seven to eight minutes or so.

(3) At about 320 to 330F. (or thereabouts) you will notice the smoke increase. At this time you can set the fan to 25%,*3 but no more even if smoke is coming from the top of the roaster. The idea here is that we want to approach first crack as quickly as possible. The segment of the roast between the end of the drying phase and the beginning of first crack is a time where sugars can be caramelized. That can't be stopped as it is an important part of the process, but by pushing through this phase we can preserve some of those sugars.

As for the subject of smoke affecting the taste of the coffee, the best explanation of this states that since the smoke, moisture, and gases are being emitted from the beans, the smoke can't really get back into them. Evacuating some of the smoke using the fan should limit deposits in the roast chamber to some extent though.

(4) At around 9:30 minutes into the roast the smoke was increasing and so I set the fan at 50%. At that same time I set the Heating Element power to 80% because I know that First crack is right around the corner.

(5) At about 10:30 you will be hearing the first clicks of First Crack...

(6) ...so set the Heating Element to 70%

(7) At about 11:00 set the Heating Element to 50% and Fan to 75%

(8) At About 11:30 heating element 30%.

(9) We are just at the end of first crack. As mentioned, things have been happening quite quickly.

(10) At about 12:30 set the Fan to 100%.

(11) At about 13:00 Heating Element to 20%.

(12) When the roast hits the level you desire, manually eject the beans.

Pheww! That certainly a lot to take in, I know. And in an actual roast, if you are reading this you are going have a tough time. If you have digested the intent, you might want to have someone read this to you so you can keep your attention on the roaster.

Basically, my idea is that I continue to turn the heat down and the fan up as the roast progresses, beginning at just before first crack. The result of these actions is that I achieved a two minute first crack and an "inter-crack" time between the end of first and the beginning of second of about 2:30.

You can see in the graph that the temperature lines both flatten out somewhat starting in mid-first. Note also that the bean temperature continues to rise even though the heating element is at 20% during the last two minutes!

CONCLUSION

The main reason for this article is to show you that there are different theories and approaches to roasting coffee. The KN-8828B models of Hottop Coffee Roasters allow this kind of modification to the roast. Should you try it? Absolutely! Will it be better than what you are doing now? Only you can make that decision. Try it and let us know!

Don't be afraid to use this profile as a starting point and make some changes to discover new tastes. For example:

- You may wish to try a roast that finishes to this same level, but in less total time. Try using 235 grams of beans for that. You could also drop the beans in at a slightly higher temperature to help shorten the total roast time.
- At (11) do not turn the Heating Element down, leaving it at 30% to try to achieve a slightly-shorter, 2:00 minute inter-crack dwell time.
- Use this profile and stop the roast at about 13:30 minutes or even a little sooner. Allow it to rest three or four days, and brew it as drip or press coffee. The coffee should be brighter (more acidity) but also sweeter.
- Some coffees taste better at higher acidity levels, and some better with the chocolate tastes accented. Roast the bright beans as documented above, and the chocolaty beans as described in the file linked at the top of this article, and blend them post-roast to taste, YOUR taste!

The best coffee is the coffee you like best, but you won't find it unless you look for it. And really, variety really is the spice of life. Try something different, if for no other reason, just to be different.

Happy Roasting!

FOOTNOTES

*1 The latest "B" model is designated KN-8828B2-K. It is identified by the emergency eject knob on the back cover as well as the K temperature probe inside the roast chamber as seen here:

Earlier models can certainly use the profile as outlined in this article, but the temperatures on the roaster's digital display will differ from those mentioned in this article. Adjust accordingly.

*2 The data for "Bean Temperature" line on the graph was gathered with a separate digital thermometer with an added probe which is in the bean mass throughout the roast. It is shown here for reference purposes only. This roast can be replicated using the display of the KN-8828B2-K. Pay attention to the BLUE line when following this profile.

*3 It is difficult to say exactly what fan speed you should use. It depends on how clean the fan blades are (dirty blades do not flow as much air) and the condition of the filter. The above test was done with a slightly used factory stock filter.

*4 It should be noted that these articles which dictate a roast profile are to be used as guidelines only. There are numerous factors that can affect the way a roast progresses. These factors can include:

- bean moisture level
- bean density
- total mass of beans being roasted
- condition of main filter
- line voltage
- maintenance schedule
  - a clean drum will roast a bit differently than one that is in need of cleaning
  - a main fan that has a buildup on the blades will flow less air at any given speed
  - heavy accumulations on the temperature sensor may have an affect on the displayed temperature

A good way to keep track of your roasts is to graph them and add notations as to how the roast progressed, areas which could use further adjustment, and most importantly, how the roasted coffee tasted. There are various programs available that can do that for you. Do a search for “coffee roast logging” and you will find a few choices. Even if you assemble just raw data, this can be entered into a spreadsheet and then graphed.