

**THE EFFECT OF INITIAL TEMPERATURE AND LENGTH OF
ROASTING TIME ON THE PHYSICAL CHARACTERISTICS
OF ROASTING RESULTS OF ROBUSTA COFFEE**
(*Coffea canephora* Pierre ex Froehner)

Supervisor: Ir. Ujang Setyoko, M.P.

Danny Surya Saputra

dannysurya95@gmail.com

Coffee Plantation Management Study Program
Department of Agricultural Production

The roasting process is the most important part for the formation of coffee aroma and has an influence on sensory, structural, physical and chemical changes in green beans. The roasting process varies from 7 to 30 minutes. This research aims to determine the effect of initial temperature and length of roasting time on temperature and time of Turning Point and First Crack, yield, density, Apparent Swelling, color. This research uses a descriptive method. There are two factors examined in this research. The first factor is the initial roasting temperature which consists of three levels, namely 160 °C, 170 °C, and 180 °C. Determination of this initial temperature is based on the density of green beans, it is about 0,69 gr/ml which is included in medium density. The second factor is the length of roasting time which consists of two levels, namely 10 minutes and 11 minutes. The research result showed that the initial temperature and length of roasting time have an impacted on the physical characteristics, Turning Point temperature 150°C - 160°C and Turning Point time 1'25" – 1'46", First Crack temperature 190°C - 194°C and First Crack time crack 7'24" – 9'42", roast bean color with an averaged Agtron value of 32.62 – 73.31, roast bean yield 81.68% - 85.08%, roasted bean density 0,33 - 0,41, and Apparent Swelling 43.31% - 71.93%. The initial temperature influenced the Turning Point and First Crack, the length of roasted time influenced the yield and roasted bean density, the initial temperature and length of roasting time influenced the Agtron value and roasted profile of the roasted bean.

Keywords: Initial roasting temperature, Roasted coffee yield, Density green bean and roast bean, First Crack, Apparent Swelling