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OPTIMIZATION OF ROASTING ROBUSTA SUKAMAKMUR COFFEE WITH OF RESPONSE SURFACE METHODOLOGY

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ABSTRACT

Experimental design was used to investigate the effect of operating temperature (160–200^0 C) and roasting time (22-30 min) on caffein content. The coffee beans produced using the optimized conditions have the following characteristics: colour; L* 55.3, a* 0.5-4.and b* 18.6; The ranges of the factors investigated were 160–200^0 C for the operating temperature (X1), 22-30 minute for the roasting time (X2). The statistical analysis of the experiment indicated that roasting time, and the temperature had significant effect on caffein content. The central composite design showed that polynomial regression models were in good agreement with the experimental results with the coefficients of determination of 0.94 and 0.89 for caffein content respectively. The optimal condition for caffein content within the experimental range of the variables studied was at 178^{0}C and 29 min. At this condition, the predicted amount of cafeein content was 0.43 mg/100g.

KEYWORDS: Roasting, Coffe Robuska, Response Surface Methodology