

Quick Roasting of Coffee Beans, an Overture to the Fluid Bed Technique

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ABSTRACT

From a couple of decades, Drying and Roasting of coffee beans in fluid beds has offered an interesting alternative, since thorough mixing and effective gas-particle contact during fluidisation ensures a good homogeneity of thermal treatment of the product and more stringent control over the bean temperature. In the existing method of fluidisation, material fluidisation performed in a multi jet hot air plenum and the roasted product will be either discharged by the help of vibratory attachment or by increasing the fluidisation air velocity.

The present work explores a new method of fluid bed technique for quick roasting of coffee beans. The main difference between the proposed method fluid bed and an existing one in related to the manner in which the material fluidisation takes place and the manner in which the roasted product are discharged are discussed in brief. Experimental trials were conducted on a lab scale roaster and process parameters were standardised as roasting temperature of 260°C and roasting time of 5 min.

Each trial has received interesting results and that are analysed by referring to the bio-chemical and organoleptic, properties of the roasted samples and the results are tabulated.

Finally, the roasted product from the proposed method of roasting and commercial roasting operations were compared in terms of energy consumption and final product quality.