

ABSTRACT

An Analysis Of The Drying Of Coffee And The Subsequent Effect On Its Quality

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Prior to the roasting of green coffee beans in the manufacture of the beverage, the beans are dried. At present, the most common method of dehydration is sun drying. This practice is weather dependent and therefore time consuming. This project aimed at establishing hot air drying as a controlled and thus more efficient alternative. The drying characteristics of green coffee and the subsequent effects on its quality were investigated.

Thus the mechanism of moisture transfer, as well as the effect of the drying air temperature (40 - 70 °C) on the drying rate and caffeine, lipid and total nitrogenous content were determined. The quality evaluation of the dried beans was supplemented by a taste test on the roasted and infused coffee product.

Experimental results indicated the presence of two distinct periods of drying with a diffusion type mechanism prevalent in the first period of coffee drying. The existence of the second period was attributed to changes inside the coffee bean, with the effect of shrinkage pointed out. The increase in air

drying temperature had the effect of increasing the drying rate without significantly changing the chemical composition and drinking quality of the coffee. On the basis of these results it was concluded that air drying is a viable alternative to sun drying.

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