

IDENTIFICATION OF GEOGRAPHICAL ORIGIN AND VARIETY OF GREEN COFFEE BY NIR

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The international coffee trade is conducted almost exclusively with green coffee. The main coffee producing countries include Brazil, Columbia, Indonesia, Mexico and the Ivory Coast. About 99 % of the coffee grown throughout the world belong to two coffee plant varieties that are commonly known as Arabica and Robusta. The quality of green coffee can be assessed according to several ISO standards (1,2,3,4,5). However, no official international standards for the authenticity of green coffee have been issued. It is important to know the country of origin of the coffee for the purposes of fair international trade. The geographic origin of the coffee is often stated on the label of coffee products such as speciality roasted and soluble coffees. Near Infrared Spectroscopy (NIR) is an accepted technique for quantitative analysis of various parameters in routine QC analysis of food products. It would appear to be a promising candidate as a tool for identification of green coffee origin and numerous feasibility studies have appeared in the literature on its use for soluble, roasted and green coffee variety identification as well as identification of arabica or robusta coffees. NIR spectrophotometers when configured in the reflectance mode are able to perform a complete profile of the NIR spectrum on whole beans. The data can then be interpreted by discriminant chemometrics data analysis. This is the approach used in the present study.