

CHEMICAL ASPECTS  
OF  
THE QUALITY OF KENYA MILD ARABICA COFFEE

Kahweol Content of the Green Coffee Beans  
and Relative Coffee Quality /

by

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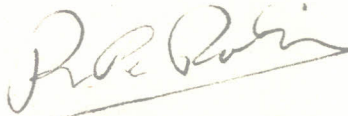
DECLARATION

I, George Wilson Kulaba, hereby declare that this thesis is my original work and has not been submitted for a degree before in any other University.



GEORGE WILSON KULABA  
(Candidate)

This thesis has been submitted for examination with my approval as the University supervisor.



Professor P.A. Robins  
(Supervisor)

## ABSTRACT

This thesis records the results of an attempt to substantiate an alleged correlation between relative coffee quality as assessed by the trade liquorers in East Africa and the presence and quantity of the unstable diterpenoid, KAHWEOL, in the green Arabica coffee beans.

Methods of isolation of the otherwise 'critical pair' of compounds, KAHWEOL and CAFESTOL, in the diterpene fraction of the unsaponifiable matter from the coffee-bean oil, were studied and a method employing silver nitrate impregnated silica gel G layers was developed for quick separation. Kahweol was estimated from its specific ultra-violet absorption at 289 nm, ensuring quantitative extraction after a reliable oil isolation procedure. No correlation was found to exist between the assessed coffee quality and kahweol content for 20 coffee samples covering a wide range of quality standards and various areas of cultivation in Kenya. Data on oil yield and percentage unsaponifiable matter is included.

The results are discussed with a review of relevant existing literature and the need for a more objective and scientific method of assessing coffee quality.