**QUANTITATIVE ANALYSIS OF CURCUMIN AND RELATED COMPOUNDS IN *CURCUMA LONGA* L.BY HPLC AND LC-MS .**

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Turmeric is a well-known medicinal plant in many cultures and is used for a variety of pharmacological activities. Many of these biological activities are attributed to the presence of curcumin and related diphenylheptanoids. Curcumin is found in turmeric along with its desmethoxy and bis-desmethoxy analogs. Like most natural products, the concentration of these interesting compounds is expected to vary depending on growing conditions and time of harvest. In the present work, conditions for the extraction of curcumin and its analogs on an analytical scale have been optimized, and spectrophotometric and chromatographic methods (HPLC, LC-MS) for the determination of total curcumin analogs as well as the individual diphenylheptanoids have been established. These methods were then applied to the analysis of field samples of turmeric grown in a variety of locations on the Island of Hawaii.

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