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FACULTY OF APPLIED SCIENCES

NATURAL ANTIOXIDAN
DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY



MARULA
ESSENTIAL OIL

PROF J.S REAL

TITLE : USING TBARS TEST FOR NATURAL ANTIOXIDANTS WITH VEGETABLE OILS

This report is submitted in partial fulfillment of the requirements of a Bachelors Degree program in Applied Biology and Biochemistry.

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ABSTRACT

Deterioration of fats and oils or rancidity constitutes one of the most important technical problems in industry. Rancidity is based on the subjective organoleptic appraisal of the off-flavor quality of food and is associated with characteristic unpalatable odor and flavor of oils. Deterioration can be microbial rancidity, oxidative and hydrolytic rancidity. Various stability tests are used to determine the lipid oxidation state of oil samples. The total plate count and the Thiobarbituric acid (TBA) tests were used in this project to determine whether Marula oil is really stable and to increase its stability. The oil was found to be highly contaminated and produced very high levels of Malondialdehyde on exposure to light. Addition of antioxidants and clarifying the oil were found to reduce the peroxidation process. In conclusion the oil is not stable but can be stabilized by adding antioxidants and clarification by either filtration or centrifugation.