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ENCAPSULATION OF CRUDE EXTRACT  
FROM SUNFLOWER

RESEARCH STUDY

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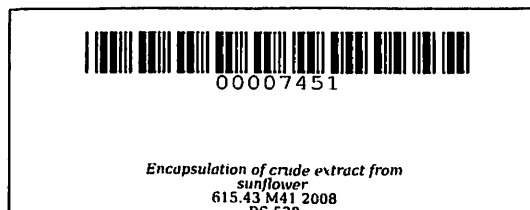
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# **ENCAPSULATION OF CRUDE EXTRACT FROM SUNFLOWER**

A Research Study Submitted to the  
Faculty of the  
Cavite State University  
Indang, Cavite

In partial fulfillment of the  
requirements for graduation



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## **ABSTRACT**

**MATEL, ALYSSA MAE C., MARERO, KAREN FAYE R. AND LOUIS CARLOS O. RODEROS. Encapsulation of Crude Extract from Sunflower. A Research Study. Cavite State University Science High School, Indang, Cavite. April 2008. Adviser: Mrs. Maridel L. Autriz.**

The study was conducted to isolate, characterize and encapsulate sunflower extract as a source of vitamin E. Specifically; it aimed to determine the possibility of isolating vitamin E from sunflower; to determine the physical and chemical properties of the sunflower extract; and to encapsulate the crude extract from sunflower.

The study was conducted from August 2007 to February 2008 at CvSU Research Center. Thin layer chromatography was used to identify the fractions of the extract, which shows that the extract contains Vitamin E. Qualitative analysis of the precipitate gave the following physico-chemical characteristics; soluble in ether, benzene and chloroform but insoluble in water; its pH value is 7, similar to commercial Vitamin E supplements; and its melting point is at 79 Celsius (°C), slightly lower than the melting point of commercial Vitamin E supplements; Baeyer's test showed that the extract contains unsaturated components.

Six hundred (600) grams of the crude extract was encapsulated which provides 15 mg of vitamin E, providing the RDA for vitamin E in adults.

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# **ENCAPSULATION CRUDE EXTRACT FROM SUNFLOWER <sup>1/</sup>**

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<sup>1/</sup> A research study submitted to the faculty of Science High School, College of Education, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for graduation. Prepared under the supervision of Mrs. Mariedel L. Autriz.

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## **INTRODUCTION**

Everybody wants a healthy body. Proof of this is the increasing rate of people using vitamin capsules and supplements which, vitamins are very essential for one's health. Vitamin A is important for skeletal growth, healthy epithelial tissues and good eyesight. It is found in milk, butter and egg yolks. Vitamin D is crucial factor in calcium metabolism, especially the growth and maintenance of bones. It is found in human skin and is activated with exposure of the skin to sunlight. Vitamin K provides the essential co-factor for the production of certain clotting in the liver, and is contained in green leafy vegetables. Vitamin C is known as ascorbic acid and plays an important role in the healing process, blood cell formation and bone and tissue growth. It occurs naturally in citrus fruits (The New Webster's International Encyclopedia, 2004). One of the most important vitamins is Vitamin E, also known as tocopherol.

Vitamin E is a fat-soluble and an antioxidant vitamin involved in the metabolism of all cells. Vitamin E is commonly used for skin treatments but there are also many functions of this specific vitamin. It protects cell membranes, especially in the lungs and