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**EFFECTS OF VARYING CONCENTRATIONS OF
SCENTS POLYETHYLENE WAX, & CRUDE
TALLOW IN CANDLE MAKING**

RESEARCH STUDY

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Effects of Varying Concentrations of Scents,
Polyethylene Wax, and Crude Tallow
in Candle Making

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*Effects of varying concentrations of
scents, polyethylene wax and crude tallow*
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ABSTRACT

ESCALANTE, NIÑA MARIE Z., FERAER, RHENA MARIE N., and HIZON, NATASHA VANEZZA S.J., Applied Research III (General Science Curriculum), Cavite State University, Indang, Cavite, “EFFECTS OF VARYING CONCENTRATIONS OF SCENTS, POLYETHYLENE WAX AND CRUDE TALLOW IN CANDLE MAKING”.

**Advisers: Dr. Josefina R.Rint
Prof. Dulce L. Ramos**

A study entitled “Effects of Varying Concentrations of Scents, Polyethylene Wax and Crude Tallow in Candle Making” was conducted in Tambo Malaki and Agus-os, Indang and Anabu 1-A, Imus, Cavite from the first week of September to the third week of October to produce quality but affordable tallow-based candles. Specifically, it aimed to: (1) determine the concentrations of crude tallow needed to produce acceptable tallow-based candles; (2) determine the concentrations of scents needed to produce acceptable tallow-based candles; and (3) assess the quality of produced candles as perceived by the respondents. Five treatments were used in the study. In experiment I, T₀ was made of 750 grams of paraffin wax, 22 grams of polyethylene wax and 10 mL of apple scent. T₁ was made of 300 grams of crude tallow, 5.0 grams of polyethylene wax and 10 mL of apple scent while T₂ with 300 grams of crude tallow, 5.0 grams of polyethylene wax and 15 mL of apple scent. T₃ was made of 300 grams of crude tallow, 5.0 grams of polyethylene wax and 20 mL of apple scent. T₄ was composed of 300 grams of crude tallow, 5.0 grams of polyethylene wax and 25 mL of apple scent. In experiment II, however, T₀ was made of 750 grams of paraffin wax, 22 grams of polyethylene wax and 10 mL of apple scent. T₁

was made of 300 grams of crude tallow, 5.0 grams of polyethylene wax and 25 mL of apple scent while T₂ was made of 350 grams of crude tallow, 5.5 grams of polyethylene wax and 25 mL of apple scent. T₃ was made of 400 grams of crude tallow, 6.0 grams of polyethylene wax and 25 mL of apple scent while T₄ was made of 450 grams of crude tallow, 6.5 grams of polyethylene wax and 25 mL of apple scent.

The physical properties of candles were determined based on odor and luminosity of the candles. General acceptability in terms of odor and luminosity was determined through respondents while the rate of liquefaction and smoke intensity was done through some other tests. The statistical tools used in analyzing the data were Completely Randomized Design (CRD), Friedman's Two-way ANOVA and Duncan's Multiple Range Test (DMRT).

Analysis of the mean ranks showed that T₀ was superior to the other treatment combinations in terms of odor, luminosity, general acceptability and rate of liquefaction. However, the tallow-based candles were superior in terms of smoke emission.

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A research study presented to the Faculty of Laboratory School, College of Education, Cavite State University, Indang, Cavite, in partial fulfillment of the requirements for graduation. Prepared under the supervision and advisorship of Dr. Josefina R. Rint and Prof. Dulce L. Ramos.

INTRODUCTION

Candles are very useful in our everyday life. They are used for illumination, which can be considered as their major role. On the other hand, they also help in repelling insects like flies.

Candle is an object made out of wax or a similar material that is burned to give light. It is made largely of solid combustible waxes or fatty substances formed around a fibrous wick. As a candle burns, its flame is fed by a supply of molten wax, which flows up the wick as a result of capillary reaction. Candles are made of different colors, shapes, scents and sizes.

There are many kinds of candles. One of these is the beeswax candle, which is continually made by dripping the melted wax over a suspended wick. On the other hand, drawn candles or tapers begin with the wick wound on and stretched between two large