BIOPLASTIC FROM BANANA (*Musa paradisiaca* L.)

Research Study

NICOLE ANNE M. ESGUERRA

NOVELYN ELLEN G. SALVACION

MARK CZERWIN P. ERANA

Science High School

CAVITE STATE UNIVERSITY

Indang, Cavite

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NICOLE ANNE M. ESGUERRA
NOVELYN ELLEN G. SALVACION
MARK CZERWIN P. ERAÑA
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ABSTRACT

ESGUERRA, NICOLE ANNE M., SALVACION, NOVELYN ELLEN G., ERANA, MARK CZERWIN P. Bioplastic using Banana *(Musa paradisiaca L.)*.Research Study (General Science Curriculum), Science High School, College of Education, Cavite State University, Indang, Cavite. April 2014. Adviser: Prof. Ma. Corazon V. Herrera.

Bioplastic using banana was conducted at Erana's Residence, Brgy. Kaytambog, Indang, Cavite from December 2013 to January 2014, using the standard method of making a homemade biodegradable plastic. The objectives of the study were to: (1) determine the percentage yield of the starch from banana; (2) determine the physical properties of the bioplastic from banana starch in terms of the following parameters: biodegradability, color, durability, texture; (3) determine the general acceptability of the bioplastic and (4) determine if there is a significant difference between the bioplastic from banana starch and commercial plastic. The needed materials were gathered in Kaytambog, Indang, Cavite.

Bananas were cleansed using warm water, cut into thin slices and was placed into a sundryer until dried for one week. Sundried bananas were pounded and pulverized using a household grinder to obtain banana starch. Water, adhesive glue, glycerin, vinegar, vegetable oil, and banana starch were measured according to the specific treatments using a weighing scale and were placed on the pan in a low heat level and stirred continuously until it turns into a glue-like substance. When the mixture starts to produce bubbles, it was cooked approximately for three minutes until the mixture turned nearly translucent.The glue-like mixture was placed and spread on an aluminum foil. After spreading the mixture over the aluminum foil, it was placed outside the house for cooling and hardening process.

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Nicole Anne M. Esguerra
Novelyn Ellen G. Salvacion
Mark Czerwin P. Eraña

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INTRODUCTION

Nowadays, lives of people living on earth have become easier because of the conveniences that the modern civilization has brought. More people now are treated to a well-sanitized food, easy transportation, sanitized water on bottles, and grocery store goods that are packed in airtight plastics. However, with all the amenities that modern life brings, they also cause people to contribute in producing a large quantity of trash particularly plastics and styrofoams that are non-biodegradable and have contributed much to the biological and aesthetic degradation of the environment (de Castro, et al.,2012).

In the country, waste management is a major problem especially in Metro Manila. This is because of people who do not care about the destruction of nature. Examples of these are people eating on sidewalks who just throw their garbage, especially plastics, on