

UTILIZATION OF LUKBAN (*Citrus maxima*) AND CALAMANSI (*Citrofortunella microcarpa*) FRUIT PEELS AS FILTERING MEDIA

A Research Study
Submitted to the faculty of the
Science High School, College of Education
Cavite State University
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In partial fulfillment
of the requirements for Research III

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May 2018

ABSTRACT

BULAKLAK, ZYRELLEN C., CREENCIA, CLARISS JOYCE E., ESTEBAN, RICHELLE ANGELICA D. Utilization of Lukban (*Citrus maxima*) And Calamansi (*Citrofortunella microcarpa*) Fruit Peels as Filtering Media. Research Study (General Science Curriculum) Laboratory Science High School, College of Education, Cavite State University, Indang, Cavite. May 2018. Adviser: Dr. Leyma L. Cero

The study was conducted to evaluate the performance of *lukban* and *calamansi* peels as filtering media. Specifically, this study aimed to: (1) determine the physicochemical quality of the filtered water in terms of color, odor, turbidity, hardness, pH level, and the microbial quality in terms of total coliform bacteria, fecal coliform bacteria, heterotrophic plate count and *E. coli* count; and (2) determine the differences on the quality of the water before and after the filtration based on the selected water quality parameters.

There were three treatments of water samples: T_0 is the unfiltered water, T_1 is the filtered water through *lukban* peels and T_2 is the filtered water through *calamansi* peels. The *calamansi* and *lukban* peels were heated in an oven and placed in a muslin cloth before filtration. Two sets of deepwell water samples were placed in sterile glass jars and stored in the cooler.

The test results showed that the *lukban* and *calamansi* fruit peels were able to improve the physical properties of the water samples. The water samples filtered using the fruit peels passed the qualifications set for the physical properties of safe drinking water. The fruit peels were able to lessen the bacterial content of the water samples but their filtering abilities were not enough to produce a safe drinking water based on its microbial properties.

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