

**INFLUENCE OF PEPPERMINT (*Mentha piperita* L.) ESSENTIAL OIL
COATING ON SHELF-LIFE QUALITY OF GRAPES
(*Vitis vinifera* L.)**

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(Agricultural and Bioprocess
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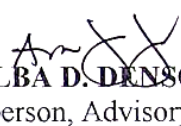
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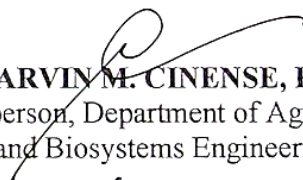

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BIOGRAPHICAL SKETCH

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She was raised in a simple, happy, good-hearted and God-centered family. She think that she was raised by two of the best people ever. Her father and mother are just the definition of hard work, faith and happiness. They have taught her, also her brother John Michael P. Bernardo to set their goals high and give everything to reach them. They help her in every step of her life. They trained her very hard style for the future challenges. So they are the most precious gift of God to her.

She enrolled at Central Luzon State University on May 13, 2014 and her 23 years of age as of now, member of Kapatirang Plebeians and proud Christian Brotherhood International member. She is currently pursuing a degree of Bachelor of Science in Agricultural and Biosystems Engineering majoring in Agricultural and Bioprocess Engineering.

The experimental research and experience gained at the University through the instructions of competent instructors prepared her to the demands of profession. Likewise, the experience of experimental study received in the thesis has helped her become ready for the challenges of the real world of work.

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ABSTRACT

BERNARDO, JOANA MARIE PASCUAL, Department of Agricultural and Biosystems Engineering, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, JUNE 2019, **INFLUENCE OF ESSENTIAL OIL FROM PEPPERMINT (*Mentha piperita* L.) TO PROLONG SHELF-LIFE QUALITY OF GRAPES (*Vitis vinifera* L.)**

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Nowadays, the country's concern is to prolong shelf -life of perishable crops to minimize postharvest losses. In this study, the effect of peppermint essential oil on the shelf-life quality of grapes was studied.

Freshly-harvested grapes were subjected to peppermint essential oil before storing to a room temperature. The grapes were exposed to peppermint oil at different levels: T1 (control treatment) – without coating, Treatment 2 – grapes were coated to 0.5% (0.5 mL) peppermint oil, Treatment 3 – grapes were coated to 1% (1 mL) peppermint oil and Treatment 4 – grapes were coated to 1.5% (1.5 mL) peppermint oil. Each treatment was then added with 100 mL distilled water. The study was laid out in Completely Randomized Design. Comparison among Means at 5% level of significance.

Results revealed that the surface color of grapes exposed to 1.0% peppermint oil coating was significantly better compared to the other treatments. On the total soluble solids, grapes with 1.0% coating shows that there was no significantly difference between 1.5% coating and without coating. With all the given measures, 1.0% coating shows the least change in total pH of grapes and significantly better compared to other treatments.

Additionally, weight loss of grapes showed that there was no significant difference among the treatments as revealed in the comparison performed using LSD.

The shelf-life lasted for 12 days before reaching the unmarketable stage. It was extended for 8 more days compared to the 4 days of usual ambient storage. While 1.0% peppermint oil coating extended the shelf-life of the grapes for 8 days.

For sensory evaluation, results showed that the control had the best results for the overall acceptability and degree of likeness on flavor, texture, sweetness and moistness while treated grapes gave the best result for the degree of likeness on color and aroma.

Furthermore, from the finding of this study, it is concluded that the most effective percentage oil coating was 1.0% mL peppermint oil.

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