EFFECTS OF POTASSIUM PERMANGANATE ($KMnO_4$) AND SALICYLIC ACID IN DELAYED RIPENING PROCESS OF BANANA (*Musa acuminata* × *balbisiana*)

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ABSTRACT

NATIVIDAD, JYME JETHRO G., Department of Agricultural and Biosystems Engineering, College of Engineering, Science City of Muñoz, Nueva Ecija, Philippines, **June 2023, EFFECTS OF POTASSIUM PERMANGANATE ($KMnO_4$) AND SALICYLIC ACID IN DELAYED RIPENING PROCESS OF BANANA (*Musa acuminata* × *balbisiana)***

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One of the most significant fruit crops in the world is the banana, which belongs to the genus Musa and the family Musaceae. Banana is highly recognized worldwide for its flavor, nutritional content, and year-round availability. The shelf life of bananas is not long enough compared to other products; hence the delay in the ripening process leads to longer storage life. Rapid ripening of bananas leads to loss called overripening; it is triggered by the ethylene gas that the banana produces when it is in the ripening stage. In a severe case, banana production needs to be on the market a few days after it has been harvested. The general objective of this study is to evaluate the physical and chemical effect of Salicylic acid and Potassium permanganate in delaying the ripening process of bananas, specifically Saba. The targeted market of this study will be the traders who will handle and transport the commodity. Delaying its ripening process has opened a more significant opportunity to produce high-quality bananas. The result showed that these chemicals can lengthen the shelf life of bananas by delaying them for two to three days. Also, the sensory evaluation, which comprises overall acceptability, individual attribute liking, and Just About Right (JAR) scores, shows no significant effect on taste in all treatments, which was subsequently reported to be acceptable. Thus, this research study has resulted in the efficacy of salicylic

acid and potassium permanganate in the delayed ripening process, which blocks ethylene production and extends the banana's shelf life.

Keywords: Banana *Saba*, Potassium Permanganate, Salicylic Acid, Delayed Ripening, and Sensory Evaluation.

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