

## ABSTRACT

### THE INFLUENCE PERMANGANATE POTASSIUM WITH ABSORBENT WOOD CHARCOAL VARIOUS MASS AGAINST THE CHARACTER OF PHYSICAL AND CHEMICAL OF 'CRYSTAL' GUAVA FRUIT (*Psidium guajava L.*) DURING THE STORAGE AT ROOM'S TEMPERATURE AND LOW TEMPERATURES

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Crystal Guava fruit (*Psidium guajava L.*) is klimakterik fruit that change in respiration pattern suddenly before the withering process, so it has a short shelf life. One of internal factors that affect the respiration of fruit is ethylene. One of the ways to slow down the maturation process is by oxidizing ethylene using permanganate potassium ( $\text{KMnO}_4$ ) and sapodilla wood charcoal as the material of carrier. The aimed of this research were (1) to find out the best of charcoal mass + $\text{KMnO}_4$  during the storage at room's temperature ( $26^\circ - 30^\circ\text{C}$ ) and low temperatures ( $10^\circ - 12^\circ\text{C}$ ), (2) to observe the physical and chemical change of crystal guava fruit and (3) the shelf life of crystal guava fruit during the storage. This research used random complete design with 5 treatment in each temperature, namely 2g charcoal +  $\text{KMnO}_4$ , 4g charcoal +  $\text{KMnO}_4$ , 6g charcoal +  $\text{KMnO}_4$ , 8g charcoal +  $\text{KMnO}_4$ , 10g charcoal +  $\text{KMnO}_4$ . The result showed that the use of  $\text{KMnO}_4$  as the Oxidize of ethylene was able to slow the violence decline and the increase of dissolved solids content. The best treatment of room's temperature storage was Ta1 (2g charcoal +  $\text{KMnO}_4$ ). On the last of storage (day 18<sup>th</sup>) the fruit had a value 25, 34% weight loss, 2, 24N hardness, 10,84 °Brix dissolved solids content and 44mg/100g vitamin C level. The best treatment of low temperature storage was Tc1 (2g charcoal +  $\text{KMnO}_4$ ). On the last of storage (day 36<sup>th</sup>) the fruit had a value 28, 02% weight loss, 2,12N hardness, 11,34 °Brix dissolved solids content and 38,13mg/100g vitamin C level. Results of statistical analysis at  $\alpha = 5\%$  of storage at room's temperature, the treatment significantly affected the parameters of dissolved solids content, while at low temperature the treatment significantly affected parameters of hardness and dissolved solids content .

Keyword: crystal guava,  $\text{KMnO}_4$  solution, ethylene, charcoal.