

Title Effects of potassium iodide on physiological changes and polyphenol oxidase gene expression in fresh-cut fruit of pineapple *Ananas comosus*

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Abstract

Administration of potassium iodide in foods was to make people get sufficient amount of iodine through their diet, and reduce the risk of iodine deficiency diseases. Application of potassium iodide was also help to inhibit the browning on fruits. We had investigated an affect of potassium iodide on physiological changes and activity of gene associated with browning in fresh-cut pineapples. It was soaked for an hour in a potassium iodide solution (concentration varied from 0, 1, 0.1, 0.01 and 0.001 %) and then kept at 25°C for 0 3 6 9 12 24 48 and 72 hours following the course of physiological analysis and the study of polyphenol oxidase (PPO) gene expression The results showed that concentration of potassium iodide at 0.1-1 % delayed respiration rate, ethylene production, percentage of ion leakage, pH value, and firmness at 0-24 hours but not the ascorbic acid content, total soluble solid. titratable acidity and color indicators. The analysis of PPO gene expression revealed the increase of potassium iodide concentration were associated with the decreasing in the expression of gene and these in consistent with the physiological changes in freshcut fruit of pineapple.