

ABSTRACT

Purple sweet potato (PSP; *Ipomea batatas* L.) is commonly utilized in numerous commercial food products in the food industry in Indonesia, such as chips, bread, pastry, and ice cream. PSP has purple color due to the presence of high anthocyanin (ACN) which owns several health benefits (antioxidant) and is more abundant than other vegetables. However, the stability of ACN and color in PSP can be affected by an internal factor, such as polyphenol oxidase (PO) as a degrading enzyme, and the external factors (temperature and light intensity). Blanching as a preheating treatment is required to inactivate the degrading enzyme for maintaining ACN and color stability. Several studies had done the comparison of different blanching treatments on ACN concentration and original color of PSP, yet their correlation analysis was not stated clearly in each blanching. This research aimed to investigate the effect of different blanching treatments towards the retention of PSP ACN concentration and original color, and investigate the relationship between ACN concentration and color in PSP by implementing PSP blanching and extraction, colorimetry measurement, ACN measurement, and correlational analysis. The results showed that steaming blanching had the highest ACN concentration (105.16 – 134.75 mg/L), followed by hot water (100.32 – 114.53 mg/L), microwave (83.88 – 104.05 mg/L), and unblanched PSP (55.01 – 73.16 mg/L) which were a range of 4 different days of cold storage. However, the correlation between colorimetry and ACN concentration might be invalid due to errors in the colorimetry instrument. Nonetheless, steam-blanching would be the best method to maintain ACN concentration prior to other food processing.

Keywords: purple sweet potato (PSP), anthocyanin (ACN), blanching, color, temperature, and light.