ABSTRACT

COPIGMENTATION EFFECT ON COLOR STABILITY OF ANTHOCYANIN FROM EPICARP EXTRACT OF TERUNG BELANDA (*Cyphomandra betacea* Sendtn)

By

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Copigmentation has been suggested as a main color stabilizing mechanism of the anthocyanin. The objectives of this research were to determine type and molar ratio of copigment (catechol or tannin) to anthocyanin which most stabilize the color of anthocyanin from epicarp extract of Terung Belanda (C*yphomandra betacea* Sendtn) during 40 days storage. Stability of anthocyanin was evaluated from changes of anthocyanin concentration and color retention during storage period and kinetic parameters. The initial anthocyanin content from epicarp extract of Terung Belanda (C*yphomandra betacea* Sendtn) was 0,31 mMol/L (0,20 mg/100g). Copigmentation with catechol less effective to stabilize of color of anthocyanin, indicated by concentration of anthocyanins at molar ratio 0:1, 50:1 and 100:1 which were not significantly different, color retention at pH 3,5 similarly of 44,35% and kinetics parameter at 65^{o}C (k) 0,141 and t½ 4,91 hours. Copigmentation with tannin at molar ratio 100:1 was more effective to stabilize the color of anthocyanin indicated by

concentration of anthocyanin was 0,10 mMol/L after 40 days storage, color retention at pH 3,5 63,56 % and kinetics parameter at 65^{o}C (k) 0,063 and t½ 11,00 hours.

Keywords: copigmentation, anthocyanin, catechol, tannin, C*yphomandra betacea* Sendtn