

Non-destructive estimation of soluble solids in the intact melon fruits from cross progeny by non-contact mode with a fiber optic probe

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A previous paper(Ito *et al.*, 2000) has described the improvement of the standard error(SEC and SEP) of the predicted soluble solids(Brix) in a melon cultivar by non-contact mode with a fiber optic probe. Then we examined the immature and mature fruits. The objective of this study was to determine if non-contact mode could improve the standard error of the predicted Brix of matured melon fruits from cross progeny as well as the contact mode(usual method). The optical absorption spectrum was measured using a NIRSystems model 6500 spectrophotometer. A commercial spectral program(NSAS ver. 3.27) was used for multiple linear regression analysis. Absorbances of 902 and in the vicinity of 877 nm were included as the independent variables in both multiple regression equations. These wavelengths are key wavelengths for non-destructive Brix determination. When the results for the contact mode and non-contact mode are compared, the latter mode improved the former standard error(SEP and RMS).