Title Non-destructive determination of nitrate ion in leaf stalks of *Brassica chinensis* using visible-near infrared spectroscopy: potential for sample temperature compensation

Authors H. Ito, S. Morimoto

Citation ISHS Acta Horticulturae 746:289-294. 2007.

Keywords *Brassica chinensis* (Qing Gin Cai); intact; ion chromatography; nitrate ion electrode

Abstract

When nitrate ion in vegetables was determined using non-destructive visible-near infrared (Vis-NIR) spectroscopy, the wavelengths (560, 902, 884, 906 nm) related to the nitrate ion or carbohydrate content were consistently included in the multiple linear regression (MLR) equations as independent variables. Nevertheless, sample temperature can influence the estimated values. In this study, we examined the possibility of examining samples at different temperatures without adjusting the calibration, and found the calibration robust for practical use. On the other hand, color measurements had the very poor accuracy on the non-destructive determination.