

Title Non-destructive determination of carbohydrate content in potatoes using near infrared spectroscopy
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Citation J. Near Infrared Spectrosc. 12, 311-314 (2004)
Keywords: near infrared spectroscopy; carbohydrate content; potatoes; difference spectra; partial least square regression (PLS)

Abstract

The performance of near infrared spectroscopy as a simple technique for the non-destructive determination of carbohydrate content in potatoes was examined. An interactance method was adopted to measure near infrared spectra (700-1100 nm). A good calibration model with reasonable accuracy (correlation coefficient of 0.93 and standard error of prediction of 0.98%) was developed using partial least square (PLS) regression. The PLS calibration model utilized effectively two characteristic absorption bands of 990 nm and 916 nm, assigned to potato starch. The plots of the regression coefficients were thought to be useful for understanding the calibration model structure.