Title	Calibration of a Near-infrared Transmission Grain Analyser for Extractable Starch in Maize
Author	Marvin R. Paulsen and Mukti Singh
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Abstract

A calibration for extractable starch in maize was developed for the Foss Infratec 1229 near-infrared transmission (NIT) grain analyser. The calibration was based on over 2267 samples collected over five crop years from 1997 through 2001. Extractable starch in maize can be predicted using the Infratec 1229 NIT spectrophotometer with a standard error of prediction (SEP) of 1·24, coefficient of determination (R^2) of 0·79, and ratio of laboratory standard deviation to SEP (RPD) of 2·15 for a validation set using one elimination pass. With no elimination passes, 8 of 389 samples were not predicted well, giving an SEP of 1·34, R^2 of 0·80 and a RPD of 2·2. A small check sample set of ten had a better SEP of 1·06 but a poorer RPD. Regression coefficient peaks corresponded to some of the wavelengths known for starch-cellulose, water, and negative protein and oil absorption bands.