Introduction:

The Cropscan 2000B Whole Grain Analyser has been calibration on a large variety of Australian grown wheat samples covering the expected protein and moisture levels encountered throughout the country. The calibration consists of Prime Hard, Australian Hard and Soft wheat samples. This study was conducted to determine the predictive ability of the Wheat 2002 universal wheat calibration on a set of soft wheat samples collected over the past three seasons.

Procedure:

Forty soft wheat samples, with Leco protein data were scanned on the Cropscan 2000B Whole Grain Analyser in a 18mm pathlength cell in the wavelength range 720-1100nm. The instrument was previously calibrated to a set of 10 standard Australian wheat samples, also with Leco protein data. The results are presented in terms of Standard Error of Prediction (SEP) and Correlation Coefficient (R^2).

Results:

The results of the prediction are presented in Figure 1.

Wheat 2002 Prediction: Soft Wheat Protein
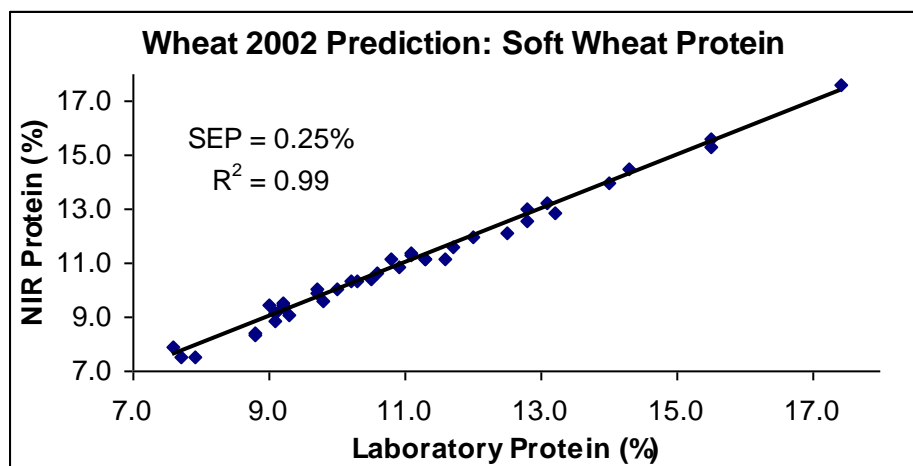
SEP = 0.25%
$R^2 = 0.99$

Figure 1: Soft wheat prediction using the Wheat 2002 universal wheat calibration.

Conclusion: The results of figure 1 conclusively show that the Wheat 2002 universal wheat calibration can accurately predict the protein level in soft wheat samples with an SEP of 0.25%. The development of a specific soft wheat calibration may lead to a calibration with a lower SEP, but overall, the Wheat 2002 calibration predicts to a level well within the 0.35% specification set by the bulk handling authorities.