



Application Note 32: Cropscan 2000B, Evaluation of Protein Analysis in Sorghum.

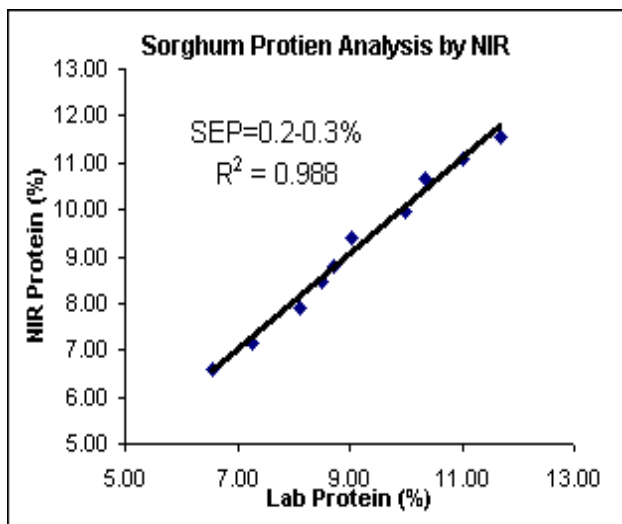
Procedure: Approximately 50 sorghum samples scanned on Cropscan 2000B in an 18mm pathlength cell, 5 replicates per sample.

Sorghum protein determined by Bunge Feedstock laboratories by Kjeldahl analysis. Preliminary calibration developed on 10 samples covering a wide range of protein content. Partial least squares regression was the method used and the calibration statistics are shown in the results section for the average of the 5 replicates.

Results:

The table and figure below show the results of predicting protein in sorghum.

Sample	Predicted Y	Measured Y	Difference
RT007	6.56	6.59	0.03
30208252	7.28	7.17	-0.11
10	8.12	7.88	-0.24
30208021	8.49	8.44	-0.05
2	8.71	8.78	0.07
H2399	9.04	9.39	0.35
4	9.99	9.94	-0.05
30208028	10.35	10.67	0.32
H2402	11.01	11.08	0.07
110829	11.68	11.57	-0.11
		Bias	0.03
		Std Dev	0.19



Conclusion: The above results show that the CropScan 2000B whole grain analyser can be calibrated to measure the protein content of sorghum samples, which come from a wide variety of types and seasons. Slight adjustments to the pathlength and more data should lead to a robust calibration. Moisture analysis is already known to be successful in sorghum with prediction statistics of about 0.2%.