

# Application Note 39: Analysis of Protein, Moisture and Oil in Soy Beans



## Introduction:

The objective of this preliminary study was to evaluate the potential use of this analyser for measuring protein, moisture and oil in Soy Beans.

## Description:

Samples of Soy Beans grown in the United State of America, were scanned using a Cropscan 2000B Whole Grain NIR Analyser. A 28 mm pathlength sample cell was filled with seeds and packed by knocking the cell on a mouse pad until the distribution of beans was consistent and there were no more whole for light to pass directly through the cell.

Figure 1 shows the NIT spectra of Soy Beans.

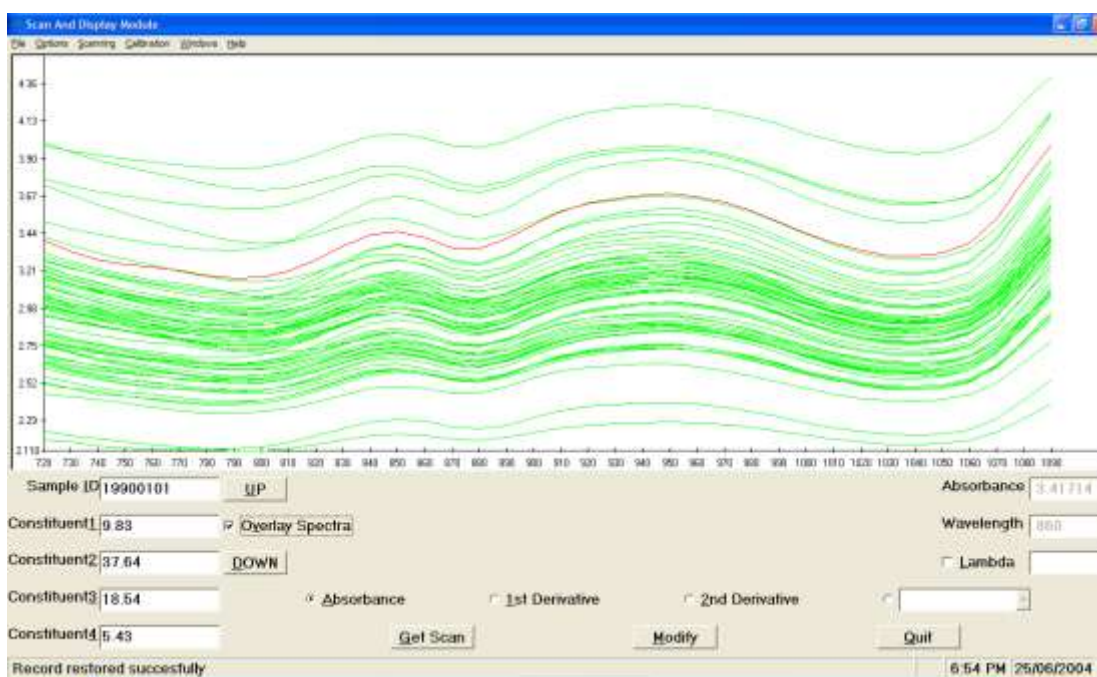


Figure 1. NIT spectra of Soy Beans

NTAS (NIR Technology Australia Software) was used to develop calibration models for each component. Figure 2, 3 and 4, respectively show the calibration plots for moisture, protein and oil.

## Comment:

This is only a preliminary study. The data shows that it is possible to develop NIT calibrations for these components in Soy Beans. The Standard Error of Calibration (SEC) is intended as an indicator of the errors that might be expected using this technique.

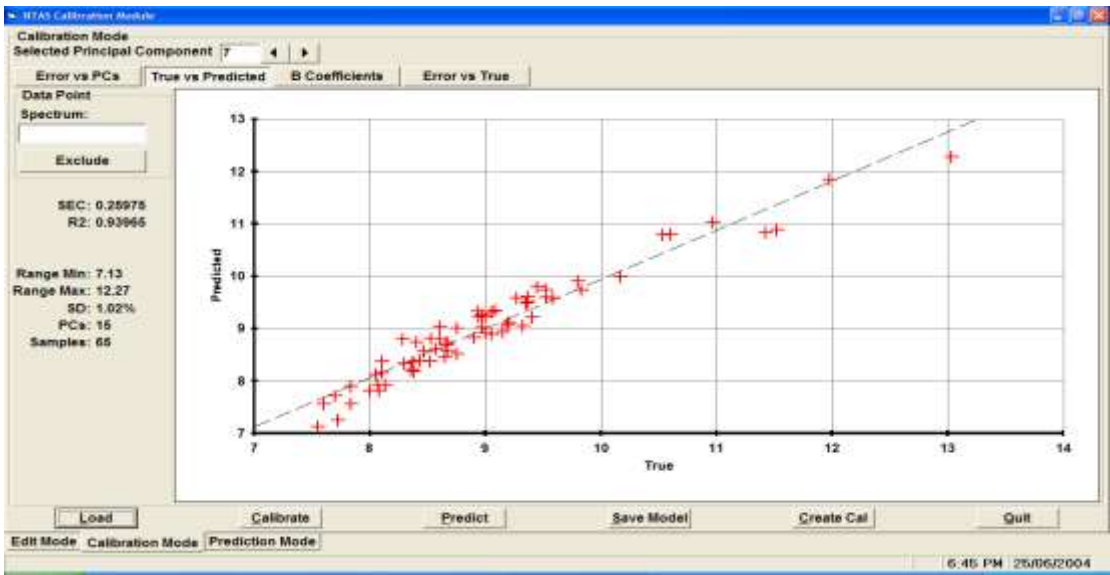


Figure 2. Calibration plot for Moisture in Soy Bean

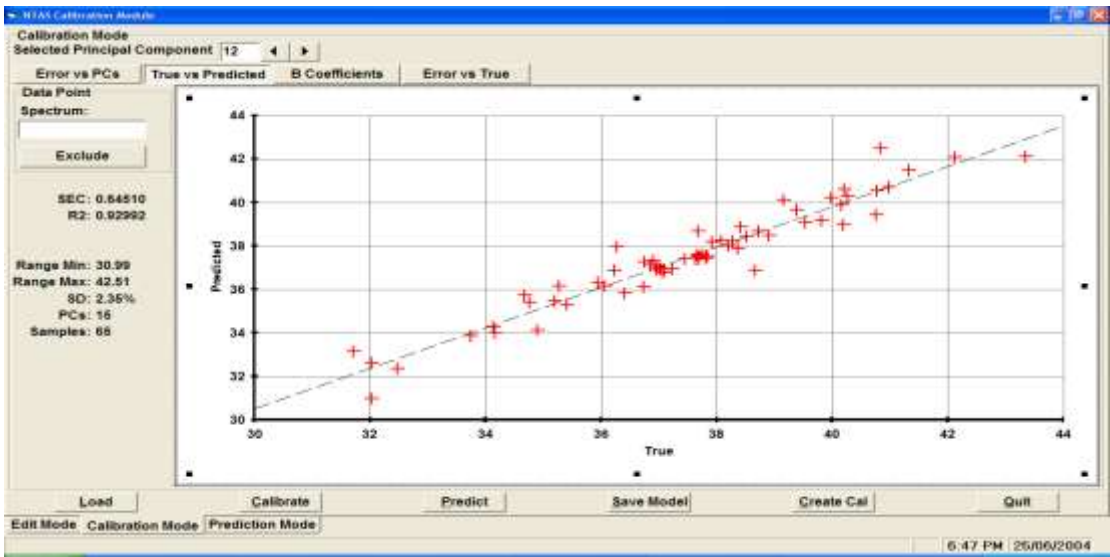


Figure 3. calibration Plot for Protein in Soy Bean

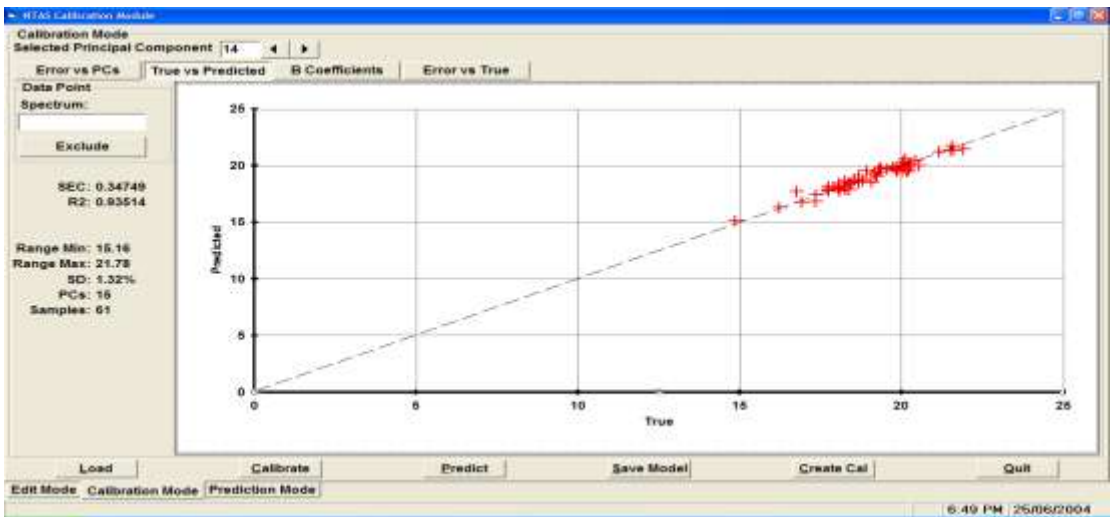


Figure 3. Calibration plot for Oil in Soy Bean