Application Note 43: NIT Spectra of Liquid Egg

Introduction:
NIR Transmission Spectroscopy provides a means of measuring moisture, protein and fat in foods and agricultural products. NIR reflectance has been used to measure components in egg powder. This simple study was conducted to test whether NIR Transmission Spectroscopy would provide a means of measuring components in liquid egg.

Description:
Three normal farm eggs were separated in Yoke and Albumen. The albumen was loaded into a 10mm pathlength sample cell and scanned from 720 to 1100nm using the NIT-38 Near Infrared Transmission Analyser. The Yoke mixture was then loaded into a similar sample cell and the spectra collected. Finally the Yoke and Albumen were mixed and then scanned.

Results:
Figure 1. shows the spectra of five scans of each, Albumen(lower scans), Yoke(middle scans) and mixed Liquid Egg(upper scans).

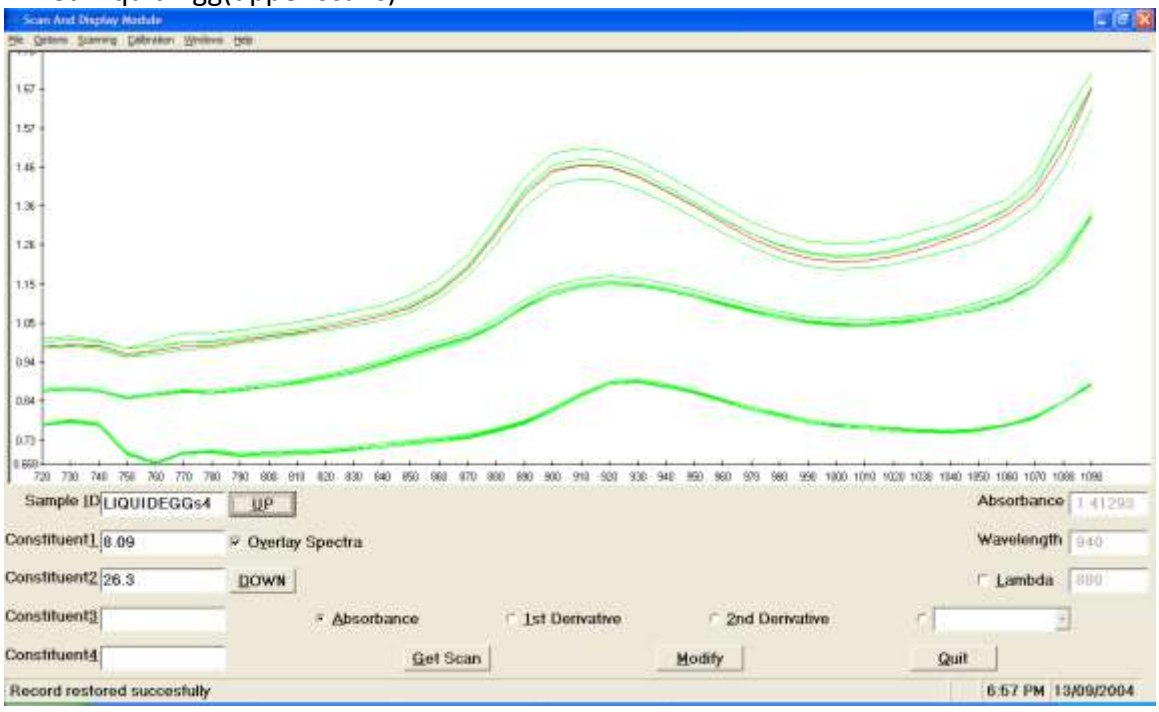

Figure 1. Plot of NIT Spectra of Liquid Eggs

Conclusion:
This study was simply to prove that a spectrum could be collected through 10mm of Liquid Egg. The smooth and consistent spectral traces, illustrate that the NIT spectra are sufficient to measure components such as protein, fat and moisture in Liquid Eggs.

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