Application Note 61: Examination of spectra for Australian Blue Poppy seeds, Thebaine Straw and Morphine Straw.

Introduction:

The purpose of this study is to determine the ability of the Cropscan 2000B to take complete and measurable spectra of Australian Blue Poppy Seeds, Morphine Straw and Thebaine Straw. Samples of Australian Blue Poppy Seeds, Morphine Straw and Thebaine Straw were acquired and scanned. This study is not meant to create a calibration or to prove the method, but to demonstrate that these products can be scanned producing reproducible spectra.

Description:

Four Samples, each, of Thebaine Straw, Morphine Straw and Australian Blue Poppy Seeds were taken. The poppy seeds were scanned using a pathlength of 6mm, in a standard seed cell, no additional preparation was needed for the poppy seeds. The samples of Thebaine and Morphine had to be prepared before they could be successfully scanned.

Preparation of the Morphine and Thebaine Straw began by placing the samples in individual zip lock plastic bags and crushing the samples with heavy weights. The crushed samples were then placed in a standard food processor and shredded to reduce the particle size further.

The reduced samples were then placed in a standard squeeze cell with a pathlenth of 12mm. 10 Scans of each sample were collected between 720 and 1100nm. All samples were scanned in duplicate.

Figure 1 below shows the standard absorbance spectra for all of the above products.

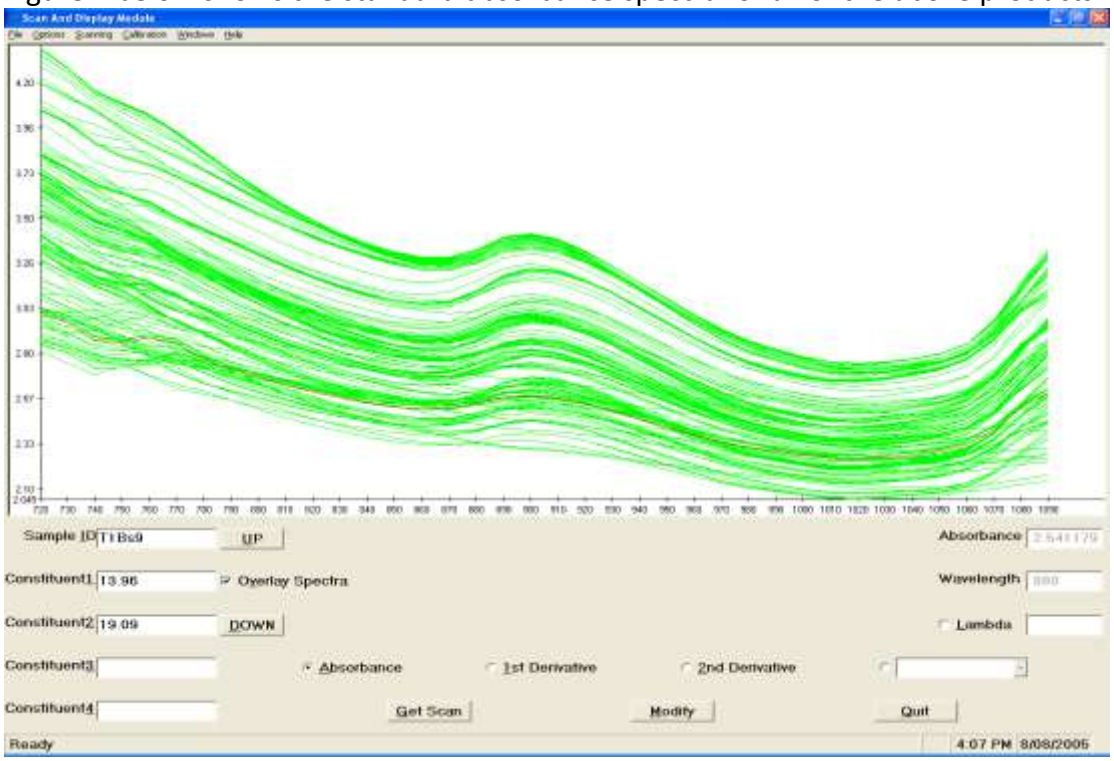

Figure 1: Absorbance Spectra for Blue Poppy Seeds, Morphine and Thebaine Straw.

Conclusion:

The spectra for Australian Blue Poppy Seeds, Morphine and Thebaine Straw are clearly readable by the Cropscan 2000B. The spectra show consistency with some variation due to changes in constituent elements such as Water.

It can therefore be concluded that the Cropscan 2000B is capable of analysing the absorbance spectra for Australian Blue Poppy seeds, Morphine and Thebaine straw. However, a better sampling method, for the straw, would need to be developed should long-term usage be desired.

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