The QTA® System participation in The Canola Council of Canada Study

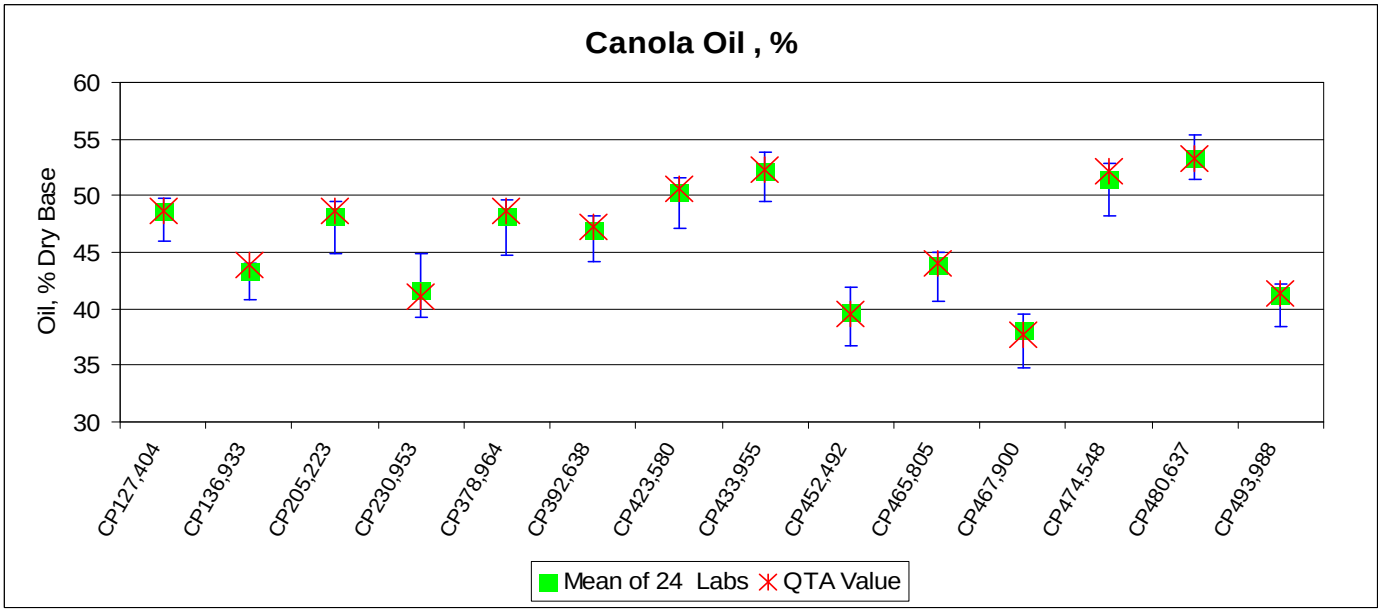
The Canola Council of Canada has proposed a goal of 45% oil, on average, for Canada's canola crop by the year 2015. In order to establish higher payouts for crops with the desired oil content, a rapid and robust method of analysis is needed. To evaluate potential candidate technologies for rapid testing, the Canadian Grain Commission conducted a survey in which 14 canola seed samples were analyzed using both traditional (time consuming) methods, and rapid test methods, including NMR and NIR. Two different types of NIR Spectrometers, from different instrument suppliers, were tested: dispersive NIR (NIRT) and Fourier Transform NIR (FT-NIR). The CGC results were analyzed both by technology (NMR, NIR and FT-NIR) and, instrument supplier. Several QTA systems were included in the study, and were labeled as FT-NIR2.

The CGC evaluated the results according to accuracy (how closely the rapid method result matched the traditional method) as well as the precision (the repeatability and reproducibility of the rapid method). Repeatability is the variation in results from one specific instrument (at one location) and Reproducibility is the site to site variation within the same supplier/technology grouping.

Accuracy:

The following graph show the % of oil results for the canola samples:

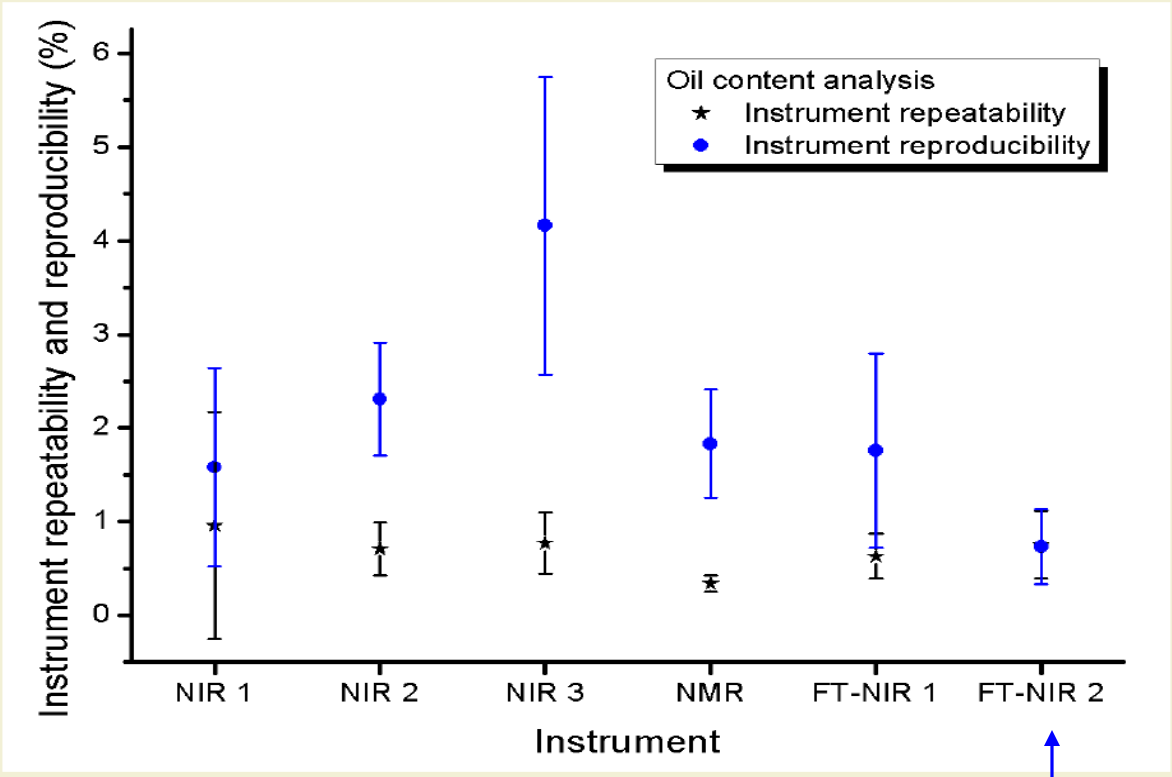
- The blue bar shows the minimum-maximum range of results of the 24 participating labs
- The green square is the mean of the wet chemistry results
- The star point is the QTA result. As the plot illustrates, the oil content determined by the QTA system is very close to the mean oil content among all participating labs. In this respect, QTA is a very robust and reliable method for seed analysis.



Precision:

In addition to the differences between NIRT and FT-NIR, the QTA System is unique in that it networks all of its NIR instruments in the field, using patented technology, to a single, central calibration used by all QTA NIR instruments. Using this technology, the QTA System decreases instrument to instrument, day to day, and site to site variability. The effectiveness of this calibration strategy was clearly demonstrated in the CGC results.

Instrument repeatability and reproducibility



*Reference: Analysis of Canola seed by Rapid Analytical Methods (NIR, NMR, FT-NIR)
Veronique J. Barthet Grain Research Laboratory, Canadian Grain Commission 05/19/2010

QTA System