



THE QTA™ SYSTEM IN THE

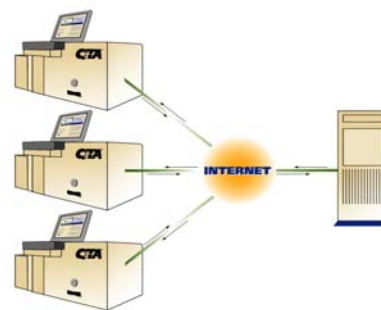
Crop Protection Industry



- Are you tired of waiting for HPLC or GC results? With QTA, you can measure the active ingredient concentration or inert level in your formulation batches within two minutes, using QTA.
- Need to know the amount of active on your granule or whether a seed batch is properly treated? QTA can do that too. Quickly, easily and non-destructively.

What is QTA?

The QTA™ System, or Quality Trait Analysis, is a service to provide rapid, on-site analysis and information management. QTA enables complex analyses to be performed by unskilled users. When customers contract with QTA, an FT-NIR instrument is placed at their facility; they can then use that instrument to scan materials. That scan is sent over the internet to QTA's central processor, where a result is calculated and returned to the user. This process takes about two minutes; there is no sample preparation; and the analysis is non-destructive. The central processor ensures accuracy and consistency; and minimizes maintenance by the user. The customer does not purchase the instrument, but rather pays a fee for the analyses.



How does QTA work?

QTA operation is extremely easy:

- Connect to www.qta.com
- Log on by entering a user name and password
- Select the material to be analyzed (corn, soybean, soap, etc.)
- Input the sample ID (batch #, truck #, etc.)
- Pour the sample into the sample cup
- Press start

The spectrometer will then scan the sample, send the scan over the internet to the QTA central processor in Cincinnati, the CP will analyze the scan and calculate a result, then the result will be transmitted back to the user and displayed on the QTA user interface screen.



Why is QTA unique?

QTA uses proprietary Cognis-developed technology to enable the remote unit + central processor mode of operation. With the remote unit + central processor, QTA is able to ensure accuracy and consistency, because we monitor the operation of the remote unit in real time. We know and can fix any issues that arise, to ensure that you are up and running and can focus on your product and process, not the analytical system.

What is FT-NIR and why does QTA use it?

FT-NIR is Fourier Transform Near Infrared. While NIR is widely used as a tool for on-site analysis by unskilled operators, FT-NIR has not been widely implemented due to its higher level of complexity – successful operation of FT-NIR requires substantial training. But with the added operational complexity comes a much wider range of capabilities. QTA facilitates the use of FT-NIR by unskilled operators at remote locations by handling all complex functions within the central processor. The remote user has an easy to use user interface; and QTA monitors the operational aspects in real time to ensure the remote instrument is performing properly.

What materials can QTA measure?

QTA can measure a wide variety of solids, liquids, pastes, powders, pellets, etc.; for components present at levels usually greater than 0.1%, that have organic (C-H) or organically bound components. We maintain a library of a wide variety of current capabilities; and will develop new applications specifically for you. Currently, we measure the following:

- Active ingredient and/or inert levels in pesticide formulations
- Active ingredient concentrations on treated seeds
- Active ingredient levels on granules
- N, P, K levels on fertilizer
- Formulation components in adjuvants, pesticides and other blends
- Extent of reaction or other critical parameters in chemical processes
- Component analysis of seeds, grains, meals and oils, including protein, moisture, oil, starch, fatty acid profiles, amino acid profiles, etc.

What's the process for QTA to develop an application for me?

Developing customer-specific applications is a specialty for QTA, and follows an easy three step process:

Step 1: You will submit 20 – 30 samples of the material to be analyzed, along with data gathered for these samples from your existing primary method (HPLC, GC, ELISA, etc.) QTA will

conduct a free feasibility study and will report back on whether we can develop an application for you.

Step 2: With a successful feasibility study, you can enter into a calibration development agreement with QTA. To develop an application for commercial use, QTA will require an additional 20 – 80 samples with primary data.

Step 3: Upon completion of the calibration development, we will place an instrument at your site for validation. During the validation stage, you will run QTA side by side with your primary method for one – two weeks, and send QTA the data. This validation phase is iterative, until the calibration is complete, and you are satisfied with the results, at which time, you can then use QTA alone, without running your time consuming primary method.

This easy, three step process can be completed in as little as one month, subject to availability of samples and primary data.

Cognis Corporation is providing the QTA™ system only to registered users who have entered into a separate Material Analysis Agreement or Information Store User Agreement with Cognis Corporation. All use of the QTA™ system shall be subject to and in accordance with such agreements and to the website terms and conditions; all access to and use of the QTA™ system constitutes acceptance thereof.