

## ASMS Abstracts

### ***Replacing LECO Pegasus HT with Pegasus BT GC/TOF-MS instruments for high throughput metabolomics: Our experience***

Jan Hazebroek and Teresa Harp | Corteva Agriscience™, Agriculture Division of DowDuPont™  
Johnston, IA USA

Our laboratory runs high sample throughput metabolomics utilizing GC/MS analytics. For many years, we have utilized LECO Pegasus III and Pegasus HT GC time-of-flight mass spectrometers (GC/TOF-MS). The robustness, data acquisition speed, and affordability coupled with ChromaTOF® software made these instruments ideal for our high throughput metabolomics application. That said, when LECO recently introduced the benchtop model Pegasus BT GC/TOF-MS with better sensitivity and wider dynamic range, both valuable attributes for metabolomics, we were most interested. In the end, we replaced all six of our older Pegasus instruments with six of the newer model.

The conversion presented several workflow integration challenges. Chief among these was that control of our legacy Gerstel autosampler software, Maestro, was not offered in the next generation Pegasus BT ChromaTOF® software. This necessitated running the Gerstel autosampler and Pegasus GC/MS sequences with separate software packages, and in our case on separate PC's due to Windows 10 incompatibility with our version of Gerstel software. Our solution to this undesirable scenario was the purchase of LECO L-PAL3 autosamplers, full control is embedded within the ChromaTOF® software. Other autosampler hardware adaptations included custom tray adaptors for the tray holders, and side mounting brackets for the Agilent 7890B GC. Minor changes to our LIMS were required to generate sequences and collect instrument operation metrics. Downstream data processing workflows using Genedata Refiner MS required adjusting as well, which was relatively straightforward given the flexibility of the Genedata software. However, we had to deal with significantly larger file sizes and the inability to import reference tables generated with the older Pegasus HT systems.

We are using our new LECO Pegasus BT GC/TOF-MS instruments for routine high throughput metabolomics. Application of this system will be demonstrated with several examples.