



## **Matrix – Assisted Laser Desorption and Ionization – Time of Flight (MALDI-TOF)**

Matrix – Assisted Laser Desorption and Ionization – Time of Flight (MALDI-TOF) mass spectrometry allows for a method of identifying bacterial isolates that can save time and resources. This mass spectrometry machine can take single bacterial colonies once they have been cultured and identify them using an automated process that analyzes the proteins in the sample and compares the patterns generated against a library of known samples. Complicated biochemical identification tests that took days to complete, now can be completed in hours.

Both the University of Minnesota Veterinary Diagnostic Laboratory's Bacteriology laboratory and the Laboratory for Udder Health (which identifies bacteria or other organisms that can be the cause of mastitis in dairy cows) have MALDI-TOF mass spectrometers in the laboratory. This more efficient method of bacterial identification can mean earlier and better treatment decisions for clients and the overall improvement of animal health.