

# IMPROVING TIMELINE AND ACCURACY OF DIAGNOSIS OF MASTITIS PATHOGENS

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



MALDI-TOF mass spectrometry technology allows rapid and accurate identification of bacterial isolates to species level. In a standard protocol, the milk is cultured as in traditional methods, but then a single bacterial colony can be analyzed using MALDI-TOF and identified by comparing its molecular profile to a library of thousands of known organisms. These specific identifications occur in **minutes rather than days**, allowing for **earlier and better treatment decisions** and animal management strategies to improve animal health and milk quality.



## CONTAGIOUS PATHOGENS

*Streptococcus agalactiae* and *Staphylococcus aureus* often require secondary tests to confirm identity. With MALDI-TOF, the result can be available at the 24-hour reading/report, where conventional methods could delay results by an additional 24 hours or more.

MALDI-TOF also allows more accurate diagnosis of *Staphylococcus aureus*, as conventional methods such as coagulase testing and beta-hemolysis can include or exclude organisms inappropriately.



## ENVIRONMENTAL PATHOGENS

By **differentiating** more organisms to the species level, we can **alter antibiotic usage and cure rates**, and can **focus preventative measures**.



# ANIMAL HEALTH INTERNATIONAL DIAGNOSTIC LAB

Providing expert analysis, consultation services and solutions to improve herd health.



Enhancing standard Milk Culture and Quality Testing with species identification using MALDI-TOF MS and PCR. Other diagnostics including Pregnancy Testing and BVD testing via ELISA and PCR technology.



## Mycoplasma Isolation

PCR can be performed on individual animals or tank milk samples to identify mycoplasma species with same-day results. Traditional culture methods for mycoplasma will provide results in 3 to 10 days, with secondary tests still required to determine species and rule out a contaminant organism called *Acholeplasma*.



## BVD Testing

Bovine viral diarrhoea virus (BVD) can be isolated from milk, serum or ear notches. BVD can cause major economic loss through losses in overall performance, milk production and reproduction. Diagnostics for BVD can be used in initial screening of clinical cases or to identify persistently infected (PI) animals as part of a control program.



## Pregnancy Testing

Animal Health International's Diagnostic Lab offers an enzyme-linked immunoassay (ELISA) for the detection of early pregnancy-associated glycoproteins (early PAGs) in milk and blood of cattle, sheep and goats.

Serum, EDTA plasma and milk can be tested as early as 28 days after breeding with no interference from a previous pregnancy as early as 60 days after calving.

AHI offers same-day testing and results can be uploaded directly into your herd health management software.



Animal Health International's Diagnostic Lab provides a full range of diagnostic testing services performed by a dedicated and experienced team. We continually evolve to meet the needs of the dairy industry to help producers and veterinarians better manage herd health decisions.

For more information on Animal Health International diagnostic lab and services please contact us at **559.372.5669** or **lab@animalhealthinternational.com**