TREK Vet Update

Volume 4, Number 1 Fall 2007

A Vizion™ for Everyone

By Amy Miskov, Associate Product Manager, TREK Diagnostic Systems

At the American Society for Microbiology's 107th General Meeting this year, TREK unveiled its newest addition to the Sensititre® susceptibility platform, the Vizion System. Vizion created excitement and buzz throughout ASM, and the feedback TREK received was overwhelmingly positive.

In August at the National AVM meeting, TREK performed a demonstration of the Vizion System to members of the veterinary community and the response was very similar. The Vizion System will be at AAVLD October 19-22.

The Vizion System represents true innovation in digitally reading all Sensititre MIC susceptibility plates. Compared to the SensiTouch®, the Vizion is a technological breakthrough. The image is projected on a touch screen monitor with the complete drug format overlaid on it. Touching or clicking the MIC well gives the technologist instant feedback. Reading an MIC is truly easy! The image can then be stored for later review, and used for teaching or training purposes.

The Vizion System utilizes SWIN® Windows®-based software, a program customized to meet the needs of the veterinary community with an extensive, customizable species and source list. SWIN gives technologists access to the most advanced and customizable Expert System available, and offers LIS connectivity. The powerful combination of Vizion and SWIN enhances workflow, saves technologist time, provides a tool for teaching and training and eliminates transcription errors, all leading to better care.

For optimal flexibility, Vizion can be used with any Sensititre susceptibility plate, both standard and custom. TREK offers the most veterinary-specific antimicrobics and MIC plates compared to any other system on the market today. With its unique lighting options, Vizion can be used to read even the most fastidious organisms, such as *Campylobacter*, *Streptococcus* spp., *Streptococcus pneumoniae*, *Histophilus somni*, *Actinobacillus pleuropenumoniae*, *Pasteurella multocida*, *Mycobacteria* spp., *Candida* spp., as well as other gram positive and gram negative organisms.

To address all of your epidemiology reporting needs, TREK also offers a comprehensive epidemiology package that can be used with the Vizion System. The SWIN Epidemiology Module meets all CLSI M39-A2 cumulative reporting criteria. The SWIN Epidemiology Module generates complete, real-time reports in just minutes. Laboratory technicians can also save and modify existing reports to ensure quick access to the most frequently used reports.

The Vizion System will revolutionize the way your laboratory looks at susceptibility test methods, and a number of exciting promotions are now available! Contact your Area Account Manager at 1-800-871-8909 in the US or your local distributor internationally with any questions regarding Vizion (Part No. V2020), SWIN (Part No. SW4000), SWIN Epidemiology (Part No. SW120) and our current promotions.

Use of the TREK ESP® Liquid Culture System for the Rapid Detection of *Mycobacterium avium subsp. paratuberculosis* and other Acid Fast Bacilli

By William H. Fales, Ph.D., University of Missouri – Columbia, Veterinary Medical Diagnostic Laboratory, College of Veterinary Medicine, Columbia, Missouri 65211

At the 2006 AAVLD, Dr. Fales et. al. presented his findings on using the ESP Culture System II for *Mycobacteria avium subspecies paratuberculosis*, and other AFB organisms from fecal and tissue samples as well. The presentation represented two years worth of data and demonstrated that the ESP Culture System II is capable of not only detecting MAP from cattle but also *M. avium, Mycobacterium haemophilum* and a mycobacterium subspecies that was cultured from a 100 year old tortoise.

Below is the presentation that was shared by Dr. Fales *et . al.*

The TREK ESP Liquid Culture System is designed to detect microbial growth by oxygen utilization and measurement of culture bottle head space pressure changes. The system offers a rapid technique for the detection of *Mycobacterium avium subspecies paratuberculosis* and other AFB from fecal and tissue samples. All Johne's check tests from NVSL have been passed since 2003, when the equipment was put in service.

All samples are processed via the Cornell Double Enrichment Technique and cultured using the TREK *para*-JEM bottles, growth solution, egg yolk solution, BLUE and antibiotic solution labeled (AS). When other Mycobacteria were suspected, a different antibiotic solution labeled PVNA was utilized. Samples producing a growth signal in the TREK ESP unit were stained for AFB with modified Kinyon cold acid fast stain and subjected to confirmation of *Mycobacterium avium subspecies paratuberculosis* (MAP) with the polymerase chain reaction (PCR). Fecal and other tissue submissions from September 2, 2004 to April 17, 2006 were reviewed. To date, 799 samples have been processed and 121 or 15% were found to be positive.

The TREK ESP significantly reduced culture time for MAP when compared with HEY.

Cultures that did not produce a growth signal after 45 days of incubation in the TREK ESP unit were stained with Kinyon acid fast method. Approximately 4% of the samples demonstrated AFB. These isolates did not readily react with the PCR test. However, upon sub-culture to Herrold's Egg Yolk (HEY) Agar, the isolates grew a demonstrated mycobactin dependency and reacted with the PCR when tested off the slant.

In addition to detecting MAP from cattle, the TREK ESP has also detected *M. avium* from poultry. Samples from exotic species have also been cultured and the following isolates have been recovered: *Mycobacterium haemophilum* from a hedgehog (1) and a *Mycobacterium subspecies* from a 100 year old tortoise(1).

The TREK ESP has reduced the culture time for MAP significantly when compared with HEY, which may take up to 16 weeks of incubation. Cattle that are heavy fecal shedders of MAP can be detected in 10 days. Moderate shedders require 25 days and light shedders may take up to 45 days.

TREK Diagnostic Systems is Now a Part of Magellan Biosciences

Since our last newsletter, TREK has undergone a change that will expand its presence in the diagnostic market! In December 2006, TREK became a wholly owned subsidiary of Magellan Biosciences Inc. (www.magellanbio.com), but continues to serve customers under the TREK Diagnostic Systems brand.

"This opens significant new opportunities for TREK, its employees, and customers, providing expanded resources and increasing our presence in the automated microbiology market," said TREK President and CEO, Mike Burke. "We are excited about the synergies and know-how that exist with Magellan's other companies, notably the potential to bring world-class automation capabilities to our customers. We look forward to sharing the strengths that reside among us to reach new customers and serve our existing customers even better with an expanding pipeline of products that improve clinical outcomes."

Antimicrobics for All TREK Veterinary Plates:

AQUATIC MIC PLATE
Part No. AQUATIC
-Trimethoprim / sulfamethoxazole
-Gentamicin
-Enrofloxacin
-Ampicillin
-Oxytetracycline
-Erythromycin
-Florfenicol
-Flumequine
-Sulphadimethoxine/ Ormetoprim
-Oxolinic Acid

AVIAN MIC VET PLATE
Part No. AVIAN1F
-Enrofloxacin
-Gentamicin
-Ceftiofur
-Neomycin
-Erythromycin
-Oxytetracycline
-Tetracycline
-Amoxicillin
-Spectinomycin
-Sulphadimethoxine
-Trimethoprim / sulfamethoxazole
-Florfenicol
-Sulphathiazole
-Penicillin
-Streptomycin
-Novobiocin
-Tylosin tartrate
-Clindamycin

BOVINE/PORCINE PLATE
Part No. BOPO6F
-Ceftiofur
-Tiamulin
-Chlortetracycline
-Gentamicin
-Florfenicol
-Oxytetracycline
-Penicillin
-Ampicillin
-Danofloxacin
-Sulphadimethoxine
-Neomycin
-Trimethoprim / sulfamethoxazole
-Spectinomycin
-Tylosin tartrate
-Tulathromycin
-Tilmicosin
-Clindamycin
-Enrofloxacin

CAMPY STANDARD PLATE
Part No. CAMPY
-Azithromycin
-Ciprofloxacin
-Erythromycin
-Gentamicin
-Tetracycline
-Florfenicol
-Nalidixic Acid
-Telithromycin
-Clindamycin

GRAM NEGATIVE NARMS PLATE
Part No. CMV1AGNF
-Amikacin
-Ampicillin
-Amoxicillin/Clavulanic Acid
-Ceftriaxone
-Chloramphenicol
-Ciprofloxacin
-Trimethoprim/ sulfamethoxazole
-Cefoxitin
-Gentamicin
-Kanamycin
-Nalidixic Acid
-Sulfisoxazole
-Streptomycin
-Tetracycline
-Ceftiofur

GRAM POSITIVE NARMS PLATE
Part No. CMV2AGPF
-Tigecycline
-Chloramphenicol
-Erythromycin
-Flavomycin
-Penicillin
-Daptomycin
-Quinupristin / dalfopristin
-Tetracycline
-Vancomycin
-Lincomycin
-Tylosin tartrate
-Ciprofloxacin
-Linezolid
-Nitrofurantoin
-Kanamycin
-Gentamicin
-Streptomycin

STANDARD VET PLATE - MASTITIS MIC
Part No. CMV1AMAF
-Ampicillin
-Penicillin
-Erythromycin
-Oxacillin+2%NaCL
-Pirlamycin
-Penicillin / novobiocin
-Tetracycline
-Cephalothin
-Ceftiofur
-Sulphadimethoxine

STANDARD VET PLATE - URINARY MIC
Part No. CMV1BURF
-Trimethoprim / sulfamethoxazole
-Ceftiofur
-Tetracycline
-Cephalexin
-Ampicillin
-Amoxicillin / clavulanic acid
-Enrofloxacin

COMPANION/EQUINE PLATE
Part No. COMEQ3F
-Amikacin
-Ampicillin
-Amoxicillin / clavulanic acid
-Cephalothin
-Cefpodoxime
-Clindamycin
-Trimethoprim / sulfamethoxazole
-Enrofloxacin
-Erythromycin
-Cefazolin
-Cefoxitin
-Gentamicin
-Imipenem
-Orbifloxacin
-Oxacillin+2%NaCL
-Penicillin
-Rifampin
-Chloramphenicol
-Marbofloxacin
-Tetracycline
-Ticarcillin
-Ceftiofur

Important Update: NARMS Gram Positive plate format CMV2AGPF will be changing in 2008! Details regarding the new format will be shared prior to January 1, 2008 with all existing customers.

VersaTREK® System for Veterinary Testing Offers Additional Test Benefits for Michigan State University

By Joseph A. Hattey, B.S.MT, Michigan State University, Diagnostic Center for Population and Animal Health, College of Veterinary Medicine, Lansing, Michigan

The Diagnostic Center for Population and Animal Health at Michigan State University (MSU) has become one of the country's premier and busiest diagnostic laboratories. The lab has grown from just over 9,700 cases when it was created in the mid 1970's to over 190,000 cases involving well over 1,000,000 tests. The laboratory is fully certified by USDA, APHIS to conduct Johne's culture testing for routine diagnosis, Herd Status Programs, and import/export testing. In 2006 they performed over 5,000 Johne's cultures.

Approximately three years ago, MSU purchased its first ESP system. The lab has now had expanded to four ESPs and one VersaTREK. Sample setup time has been greatly reduced compared to the traditional method of Johne's testing which included centrifugation and Harrold's Egg Yolk Agar Media. Improvements with the automated system lead our Johne's disease diagnostic service to offer rapid liquid culture for the isolation of *Mycobacterium paratuberculosis* from feces, tissues, and environmental samples in as little as 5 weeks from submission of the sample.

VersaTREK Benefits

Upon installation, MSU placed over 1,000 Johne's cultures on the VersaTREK system and performed duplicate tests on both the ESP and VersaTREK systems. The results were very consistent between the two systems. Neither automated system had any false positive or negative results.

Technologist feedback regarding the VersaTREK system has been very positive. Some of their comments include:

- Instrument design promotes ease of loading and unloading samples.
- Integrated touch screen allows the technologist to perform many functions standing at the instrument. Loading, unloading, being able to look at growth curves and modifying instrument configuration are a few of the available features.
- Main Menu Display uses hyperlinks, so data is one touch away. All data backups are handled automatically by the operating system and stored in two locations.
- Both Herd and individual animal demographics can be captured. This improves our ability to utilize the data collected, and generate more useful reports; Management, QC, and examine trends. This platform is a major step toward a direct interface to our new LIS system.
- In the sample entry screen, the dictionary function allows each institution to add custom entries for species, location, source, as well as client names and account numbers to the drop downs. This helps to streamline even the manual entry method.
- Entering large multiple animal cases are effortless using the auto generate function.
- Generating barcode labels directly from the *para*-JEM® software is another feature that streamlines the process of loading samples.

As you can clearly see from the technologists' comments, VersaTREK offers our laboratory ease of use, enhanced ergonomics, an intuitive software program, and a fast, accurate test option for Johne's Disease!

Editor's Note: Now you can have the best of both worlds -- Your choice of the ESP® Culture System II or the VersaTREK Automated Microbial Detection System!

The ESP Culture System II -- Your cost-effective solution. *The ESP Culture System II combines the proprietary para-JEM reagent liquid media, growth supplements, and antibiotic supplements with a detection system that automatically incubates and continuously monitors culture bottles.*

The VersaTREK Automated Microbial Detection System -- Your premium solution. *The VersaTREK utilizes the same unique technology and media as the ESP Culture System II, however, the VersaTREK System also offers the following premium features for our veterinary customers: enhanced ergonomics and workflow, one touch LCD screen, powerful barcode scanner, easy accessioning through the barcode printer and 144 more locations than the ESP System.*

Value in Adding Epidemiology Software to Your SWIN® System

By Shelley Rankin, Ph.D., University of Pennsylvania, School of Veterinary Medicine

Shelley Rankin, Ph.D., from the University of Pennsylvania, School of Veterinary Medicine is a new Sensititre user, although she does have experience with automated bacterial identification and susceptibility testing systems. Dr. Rankin was recently appointed as Chief of the Clinical Microbiology service at the New Bolton Center in Kennett Square. She is eager to use the SWIN Epidemiology software (Part No. SW120) to bring stored information to the clinicians and staff at NBC.

"The technical support staff at TREK has been wonderful, and has transferred all of New Bolton's data from our older Sensititre SAMS database to the new Sensititre SWIN software database.

It's essential, in the face of multiple drug resistant bacteria, that the microbiology laboratory provide up to date antimicrobial susceptibility information to clinical staff in order to improve patient care. It is also important to identify long-term trends, and I hope that the SWIN software will not only help the lab to produce quarterly susceptibility reports from January 2008, but will also help us to generate annual susceptibility reports from 1997-2006 that we can share with our veterinarians. The susceptibility trend data generated from one of the nation's biggest large animal hospitals will also be of great interest to the veterinary community at large. The SWIN Epidemiology software makes it very quick and easy to complete this task, which has been previously contemplated, but the time and manpower required to compile all those reports made it very difficult to complete. I am sure that our clinical staff and students will be very grateful that the microbiology lab is now in a position to provide them with quality, up to date information."

Talk to your Area Account Manager in the US, or your local distributor internationally about adding SWIN Epidemiology (Part No. SW120) to your SWIN system.

Announcement: Upcoming Change

Our Bovine/Porcine panel (Part No. BOPO6F) will be undergoing a "facelift" to bring the Oxacillin ranges in line with new CLSI interpretive criteria. CLSI has amended the breakpoints to match existing clinical breakpoints. Look for the update coming soon!

Custom Plates & Custom Broths for Custom Labs

By Amy Miskov, Associate Product Manager, TREK Diagnostic Systems

With the increasing amount of antibiotic resistance, fastidious organisms, once considered susceptible to most antibiotics are now undergoing routine susceptibility testing. Laboratories need a complete susceptibility system that is flexible enough to handle both the routine and the most fastidious organisms quickly and easily. Sensititre custom plates and specialty broths offer laboratories a high level of flexibility and customization.

Sensititre dried custom plates offer complete design customization to every size laboratory. With over 240 antimicrobials available and a wide variety of antifungal agents, you have complete control over the plate format. Custom dried plates are available for use with the ARIS® 2X system or as a manually read plate. Custom frozen plates, made according to CLSI reference standards, are also available for any special studies a laboratory may have. All custom plates are available with software for use on the Sensititre SWIN® susceptibility system.

Sensititre offers a wide variety of quality enriched broths for use with the most fastidious organisms. Sensititre Veterinary Fastidious Medium (Part No. T3460), Mueller-Hinton Broth with Lysed Horse Blood (Part No. CP112-10), Supplemented *Brucella* Broth (Part No. T3450) and *Haemophilus* Test Medium (Part No. T3470) give laboratories the ability to quickly and easily test even the most unusual veterinary organisms. These broths are available for use on both standard and custom plates.

Join TREK in Reno at AAVLD 2007!

Stop by booth #105 to see TREK's brand new Vizion System, as well as the VersaTREK Automated Microbial Detection System at AAVLD 2007! AAVLD's 50th Annual Meeting will be held at John Ascuaga's Nugget in Reno, NV October 19-22nd.

Be sure to mark your calendar for TREK's annual invitation-only dinner on October 20th from 6:30-9:30pm on the Poolside Terrace at John Ascuaga's Nugget.

We look forward to seeing you in Reno!

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Upcoming TREK Trade Shows

AAVLD 2007
Oct. 19-22, Reno, NV

AVM 2008
April 25-26, Ames, IA

National AVM
August, New Jersey

AAVLD 2008
Oct. 23-27, Greensboro, NC

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