

ADVANCED MicrobiologyNews

Vol. 2 No. 1

INNOVATIONS FOR THE MICROBIOLOGY LAB

In This Issue

Spiral Biotech to Introduce New Autoplate Spiral Plating System at ASM General Meeting in May **1**

Comparative Analysis of the New Color QCount Automated Colony Counter Software Version 2.4 **1**

Utilizing the New Autoplate for Preservative Effectiveness Testing (PET) in the Pharmaceutical and Personal Care Industries **2**

SBI's newest addition: The Baby Anoxomat **3**

International Spiral Biotech **4**

Spiral Biotech to Introduce New Autoplate Spiral Plating System at ASM General Meeting in May

Spiral Biotech, an Advanced Instruments company, will introduce its new Autoplate® Spiral Plating System — which delivers faster cycle times, a touch screen display, and self-cleaning features that boost processing speed and efficiency in microbiology laboratories — at the American Society for Microbiology's (ASM) General Meeting in May 2009.

"The introduction of the new Autoplate, represents a major advancement in spiral plating technology," said Anthony Pappas, National Sales Manager, Advanced Instruments.

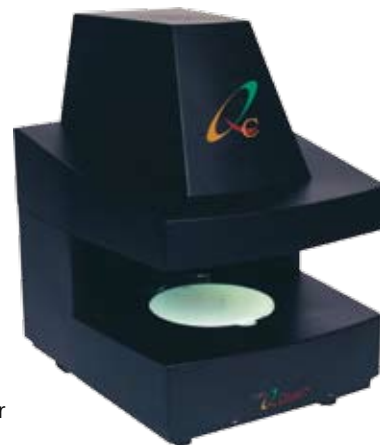
"The new Autoplate features 50 percent faster cycle times — 30 seconds as opposed to one minute — a new Windows® CE-based touch screen display, and an expanded range of analysis that includes two new spiral plating modes. The new system also introduces a revolutionary self-cleaning feature that is very fast, very thorough, and ensures no sample-to-sample contamination. **Continued on page 2**



Comparative Analysis of the New Color QCount Automated Colony Counter Software Version 2.4

The Color QCount® is an automated colony counter used in microbiology laboratories to improve efficiency by enumerating and differentiating bacterial colonies on agar plates. The instrument uses a CCD video camera to capture images of the plate and count and differentiate color colonies using proprietary image-analysis software. With

QCount Software Version 2.3 (Q2.3), users must manually adjust the camera shutter speed to optimize the digital image of the plate. The newly released QCount Software Version 2.4 (Q2.4) replaces the manual shutter speed selection with an automatic shutter speed option in which the software determines the optimal shutter speed to create a digital image and automatically count colonies. In this study, bacteria plated on spread, pour and spiral plates were automatically counted using both Q2.3 and Q2.4, the data was analyzed by linear regression and performance limits were compared. Historically automated plate counts are acceptable if within 0.5 log of the manual count. **Continued on page 3**



 **ADVANCED INSTRUMENTS, INC.**

 **Spiral Biotech**
An Advanced Instruments Company

FISKE ASSOCIATES

 **Delta Instruments**, NORTH AMERICA
An Advanced Instruments, Inc. Company

www.aicompanies.com

Advanced Microbiology News is an Advanced Instruments, Inc. publication. Copyright © 2009 Advanced Instruments, Inc. All rights reserved.

From the President



Welcome to our 2009 edition of *Advanced Microbiology News*. We hope this latest newsletter informs and entertains you.

Spiral Biotech, our wholly owned subsidiary, is well known as the developer of the spiral plating technique and producer of the first spiral plater. We've now given spiral plating technology a whole new spin with this month's introduction of the Autoplate Spiral Plating System. Cycle times have been cut in half and the Autoplate boasts true 4-log dilution capabilities. A color touch screen interface simplifies operator interaction making the Autoplate intuitive to learn and use.

You'll also hear about how we've completely automated shutter speed selection for our Color QCount colony counter in a way that optimizes the plate's digital image and produces colony counts in a snap. And for those who missed it, we give you another look at our smallest anaerobic system, the "Baby" Anoxomat.

Advanced Instruments, Inc. has been in the business of providing automated systems that help our global customers improve productivity and product quality, meet regulatory requirements, and reduce unnecessary operating expense, for over fifty years.

Our goal is to keep you updated and educated about our products, and their many and varied applications. We welcome your comments, criticisms and suggestions.

John L. Coughlin
President and CEO
Advanced Instruments, Inc.

Utilizing the New Autoplate for Preservative Effectiveness Testing (PET) in the Pharmaceutical and Personal Care Industries

Spiral Biotech has pioneered numerable improvements in the field of spiral plating. Spiral Biotech's new Autoplate® Spiral Plating System is the latest leap forward in spiral plating technology. The Autoplate uses an AOAC-approved method (#977.27) to directly plate microbial suspensions with concentrations from approximately 40 to 1,000,000 CFU/ml on 100mm plates without the need for serial dilutions. This automated method's unique features result in greater sample repeatability and significant savings in time, labor, and disposable materials over conventional plating methods.

Makers of pharmaceuticals, cosmetics, and personal toiletry products realize the role that preservatives play in preventing microbial spoilage. Their products have the potential to become contaminated with microbes during manufacturing or consumer handling.

Preservatives in their formulations are necessary to maintain product quality and shelf life. In the pharmaceutical industry, regulatory requirements mandate that a product's preservative is effective over the storage time of the product. The Antimicrobial Effectiveness Test (U.S. Pharmacopeia XXII) requires that all preserved products be challenged with 5 microorganisms: *S. aureus*, *E. coli*, *P. aeruginosa*, *C. albicans*, and *A. niger*.

Utilizing the Autoplate for these types of samples saves significant time and materials because the number of microbes present in the samples cannot be accurately discerned prior to plating. The inability to establish the CFU/ml range of these samples would normally lead to a large number of dilutions being prepared and plated. The Autoplate significantly reduces the dilution series required and therefore saves time and materials.



Spiral Biotech to Introduce New Autoplate Spiral Plating System at ASM General Meeting in May

Continued from page 1

"Altogether, the new Autoplate drives spiral plating technology a generational leap forward," Pappas said.

The new Autoplate deposits microbial suspensions without the need for most serial dilutions, thus increasing efficiency in the microbiology laboratory. Labor and material costs associated

with sample preparation and manual dilution are reduced by 75%. Moreover, by eliminating the variability inherent in manual procedures, Autoplate delivers both a higher degree of accuracy, and repeatability.

Spiral Biotech's Autoplate technology is ideal for any laboratory that uses microbial concentration samples greater than 1,000 CFU/g or CFU/ml,

or any application where counts are high, and standardization and reproducibility are key.

Spiral Biotech will unveil the new Autoplate at the General Meeting, May 18-20, 2009, in Philadelphia. For more information, visit the Spiral Biotech exhibit, number 133, at General Meeting. Or, visit www.aicompanies.com/Autoplate.

SBI's newest addition: The "Baby" Anoxomat

Spiral Biotech, Inc. is pleased to announce a new product in its portfolio of microbiology instrumentation, the Anoxomat™ OP. Complementing its automated plating and colony counting devices, Spiral Biotech is adding a newer, more simplified model of its modified environment culturing equipment.

The Anoxomat, manufactured by Mart® Microbiology [subsidiary of Advanced Instruments], provides an easy solution to making oxygen-free environments in microbiology laboratories worldwide.

Many species of bacteria that are harmful to humans and animals can survive only in environments with little or no oxygen.

Some illness-causing bacteria

related to contaminated foods

and internal infections can only grow and survive in environments lacking oxygen altogether. Using the air replacement method, the Anoxomat anaerobe systems are an excellent method of creating precise gas conditions for research, clinical, and reference labs worldwide.

This new addition to the Anoxomat family, the model AN2OP was quickly coined "Baby"

Anoxomat because of its simplified capabilities. Making its debut at the 107th General Meeting of the American Society of Microbiology in Toronto, the Baby Anoxomat [found] its place in clinical labs everywhere. Using the same evacu-

Using the same evacuation and gas replacement method of the older Anoxomat, the Baby Anoxomat is a more economical, simplified version, perfect for smaller clinical labs.

ation and gas replacement method of the older Anoxomat, the Baby Anoxomat is a more economical, simplified version, making it a perfect option for smaller clinical labs. These labs can benefit from the new version of the Anoxomat mainly because it offers the same benefits of the previous Anoxomat, but at a fraction of the price. The Baby Anoxomat lowers gas consumption compared to other methods of arriving at anaerobicity (such as chambers or gas packs), while improving recovery among the organisms being grown and therefore providing improved patient care. The system needs little maintenance and has the same small footprint as the previous version of the Anoxomat. This Anoxomat has become a great tool for microbiologists everywhere who look to obtain the perfect environmental conditions for their very finicky organisms.

Originally published in "Advanced Microbiology News", 2007



The Baby Anoxomat lowers gas consumption compared to other methods of arriving at anaerobicity (such as chambers or gas packs), while improving recovery among the organisms being grown and therefore providing improved patient care.

Comparative Analysis of the New Color QCount® Automated Colony Counter Software Version 2.4

Continued from page 1

Since the accuracy of the Q2.3 has already been established, comparing automated colony counts from Q2.4 to the corresponding counts of Q2.3 indicates the accuracy of Q2.4. A total of 66 plates were compared including 29 spiral plates, 27 spread plates, and 10 pour plates. Eighteen different media types were used in conjunction with 11 different bacteria types, raw milk and mixed unknown cultures. The plates spanned a counting range of 30-350 CFU/mL. The R2 coefficient comparing the Q2.4 counts versus the Q2.3 counts was 0.999. The slope and the intercept for the linear regression line were 0.9887 and 0.0432 respectively. The mean log value difference between Q2.4 and Q2.3 for pooled data was 0.03. The mean log value differences between the plates analyzed on Q2.4 and Q2.3 were within 0.1 log 95.3% of the time and within 0.2 log 100% of the time. These results demonstrate that Q2.4 is comparable to Q2.3 and is therefore a suitable alternative to the manual count method.

The newly released QCount Software Version 2.4 replaces the manual shutter speed selection with an automatic shutter speed option in which the software determines the optimal shutter speed to create a digital image and automatically count colonies.

Upcoming Events

Microbiology Events 2009

- » The General Meeting (ASM)
May 18-20, Philadelphia, PA
- » IFT, Annual Meeting and Food Expo
June 7-9, Anaheim, CA
- » IAFP, Annual Meeting
July 12-14, Grapevine, TX
- » AACC Clinical Lab Expo
July 21-23, Chicago, IL
- » ICAAC/ISDA
September 12-15, San Francisco, CA

Trade Shows 2009

Advanced Instruments and Advanced Instruments' subsidiaries: Delta Instruments and Spiral Biotech, are participating in a number of Trade Shows and Exhibitions all over the United States and in Canada. Go to www.aicompanies.com/expos2009 for more information.

GET THIS IN YOUR E-MAIL

Visit www.aicompanies.com/microbiologynews today to read more or register for future editions.

About Advanced Instruments

Advanced Instruments, Inc. and our subsidiaries, **Spiral Biotech, Delta Instruments, D & F Control, Systems,** and **Mart Microbiology,** design and manufacture instrumentation for clinical, pharmaceutical, biotechnology, microbiology, and food laboratories around the world. Our products help healthcare companies improve the quality of care and industrial companies enhance quality and productivity.

TECHNICAL SUPPORT

24-Hour Support,
7 Days a Week



FISKE® ASSOCIATES



www.aicompanies.com



Two Technology Way / 781-320-9000
Norwood, Massachusetts 02062, USA
800-225-4034 Fax: 781-320-8181
www.aicompanies.com

INNOVATIONS FOR THE MICROBIOLOGY LAB

International Spiral Biotech

Spiral Biotech has always been proud of its presence in the international market place. We have distributed our products worldwide since the Model D was developed 25 years ago. Over the past several years we have had great success throughout Asia, developing the market for automated microbiology. For example, in China, the Autoplate®4000 and the QCount® are cornerstones of microbiology testing in the Chinese government laboratories.

The Asian markets have embraced automation as the way to assure their people that food products coming into the country are safe. For many of these countries, imports of food products are a large part of their economies and therefore the faster and more accurate the test results, the sooner the products can be sold. This has been a critical decision factor in automating their plating and especially the counting of the plates.

The AP4000 and QCount have played an important role in assisting these countries in distributing products and maintaining the high standards that are required in the global markets of today.

*Pictured: The new
Autoplate Spiral Plating
System and Color QCount*



Technical Support is available around the clock for all domestic Advanced Instruments, Fiske® Associates, Spiral Biotech and Delta Instruments customers. Call toll free — (800) 554-1620 or +1 (781) 320-9000.