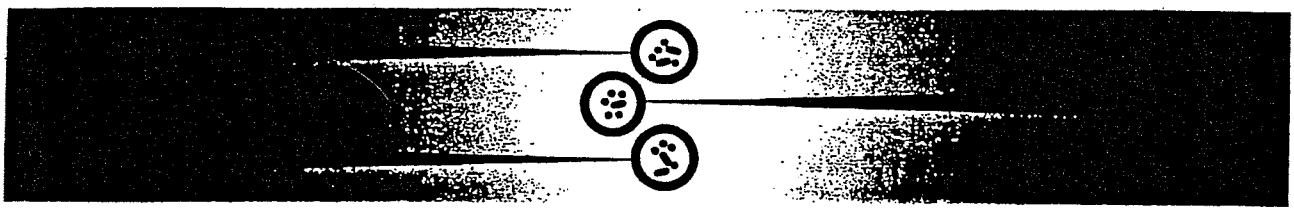


PMF NEWSLETTER

A quarterly publication of the Pharmaceutical Microbiology Forum

DISTRIBUTED INTERNATIONALLY

Volume 7, Number 1

IN THIS ISSUE:

PMF Newsletter is published quarterly by the Pharmaceutical Microbiology Forum. 3166 Wood Valley Road, Panama City, FL 32405. Telephone (850) 763-5453. Send all inquires, letters, and comments to the above address c/o L. Valdes-Mora.

PURPOSE: To provide a forum for discussion of microbiology issues in the pharmaceutical and related industry.

The information contained in this newsletter is the professional opinions of our members and does not represent the policies or operations of any corporation or government agency to which members may be associated. *PMF Newsletter* is intended to serve as an open forum and confidentiality will be maintained. The information in *PMF Newsletter* is solely for information purposes and is developed from sources believed to be reliable. Statements expressed constitute current opinions derived through analysis of available information and professional networking. Articles or opinions are for information only for PMF members to stimulate discussion and are not the views of the PMF board or regulatory agencies. The *PMF Newsletter* cannot make any representations as to the accuracy or completeness of the information presented and the publisher cannot be held liable for errors.

President's Message

Three years ago we conducted the first Salary Survey done exclusively with pharmaceutical microbiologists and related scientists, such as microbiologists working in Biotechnology, Biopharmaceuticals, Diagnostics and Devices. We published the findings in our newsletter and also presented highlights of the data and its analysis at one of our annual meetings. Those who attended the meeting arrived at the conclusion that this type of survey should be conducted periodically.

Please take a few minutes of your time to fill out the survey and return it to us via regular mail. Before you do this, you may like to copy the form and distribute copies to all your colleagues and friends. As you can imagine, the more responses we get, the more valuable the survey would be.

Our survey assisted some of our members in negotiating better salaries. This one may help you. Send it back promptly. Thank you for helping your organization!

Laura

P. S. Membership renewal letters were sent out in April. Do not forget to renew your membership so that you can obtain the results of this survey.

Interview with Ziva Abraham, Creator of Microrite Bactispell Software

By Sharon Wood

Ziva developed the Microrite Bactispell Software because she was tired of looking up the spelling of microbial names. She felt she was wasting too much time going back and forth between references to get the correct spelling, current nomenclature and still had some spelling errors.

Ziva started her education in India and finished it in Israel. She worked in clinical and industrial microbiology for more than 20 years and dealt with microbial names on a daily basis. Although spell checkers for commercial word processing programs became larger and included more technical words, they still did not address the special needs of the microbiologist.

In 1998 she realized that others might also be interested in a professional spell checker for microbiology, so she spent a year referencing hundreds of sources for all the bacterial names, both current and out of use. She reconfirmed the spelling of all these words. She included terminology that was bacteriology related, including thousands of biochemicals, enzymes, media, proteins, antibiotics and other useful references.

During her research of scientific articles, she noticed that many did not have the correct formatting for bacterial names, so she added these features.

Working with a programmer, she was able to put together the software to work with Microsoft Office 97. They focused on ease of use so when the software loads it adds two inconspicuous icons to the tool bar. When you want to check your document, you click on the icon, which activates the spell checker.

As a beta tester, I found the program fast and very user friendly and yes, it found a couple of microbial spelling errors in a large document on which I was working. It checked genus, species, and other taxonomical names, recognized each category and italicized, capitalized or uncapitalized accordingly.

Ziva plans future additions to include viruses and fungi and keep the database current. You may get more information from the website at www.microrite.com.

Highlights from the AAI 9th Annual Microbiology Seminar (April 10-11, 2000; Wrightsville Beach, NC)

PART I

(Part 2 will be continued in the next issue)

Gloria Berrios, Eli Lilly and Co., 'Sterility Assurance- Approaches to Corporate Implementation'

- Minimum elements of a sterility assurance program are:

  Environmental Monitoring program

  Sanitization program

  Operator involvement – training and aseptic technique

  Media fills

  Facilities/Equipment- Certification/Validation

  Utility Monitoring and Maintenance

  Bioburden and Microbial Limits Test of raw materials, pre-filtration solutions, primary packaging components

  Validation of sterilization cycles

  Sterile filtration validation

  Container-closure integrity

  Establishment of contingency plans for unusual events during manufacturing (e.g. power shutdown)

  USP Sterility Test

  USP Preservative Effectiveness Test

  Adherence to and enforcement of the established programs

Warren Casey, Ph.D., Glaxo-Wellcome, 'Evaluating and Implementing New Technologies in Pharmaceutical Microbiology'

- The USP methods are fine in the sense that they work and have protected the public safety for many years. New alternative techniques are needed to save money- any safety increases are a side benefit.
- In selecting an alternative method one needs to: 1) Assess the need, 2) Identify options, and 3) Implement.
- In assessing the need, one must identify specific areas that are in need of improvement (e.g., for the Microbial Limits Test, often one has to have on hand many types of plated media which go unused and then are thrown out. A better method would be justified to save this expense. Lactose Broth as an enrichment medium has its history from food microbiology- however; most species of Salmonella encountered in our industry are stressed and will not grow if injured. His firm showed that use of Trypticase Soy Broth resulted in better recovery than Lactose Broth and they validated this substitution).
- Dr. Casey expects that within the next 10 years, DNA-based methods will be the technology of choice for identification of organisms rather than by biochemical means.
- As new methods such as ATP bioluminescence and chemiluminescence become accepted alternatives to bioburden testing, he pointed out that specifications will need to be increased as higher numbers of viable microorganisms will be detected than with current, traditional microbiological methods.

David Karle, Steris Corp., ' Established Methods and More Recent Technologies for Sterilization'

- Steam sterilization cycles consist of 3 phases: heating, sterilizing, and cool-down.
- Common misconceptions about steam sterilization:

  1) Everything can be sterilized: closed valves on containers do not permit steam penetration. O-rings and seals may retard steam penetration. Upright, empty containers are difficult to remove air from with a gravity cycle.

  2) All biological indicators of the same population (i.e., 10^6) are killed in the same time period: D-values of BI's vary.

  3) The attainment of 121.1° C is a significant requirement to sterilize: The objective of steam sterilization is to achieve lethality. F_0 accumulates at all spore killing temperatures although it is slower at lower temperatures.

  4) Exposure time for a liquid cycle means that the product is at that temperature for the entire period: Exposure time must account for product come-up and cool-down times and desired time at the temperature.

  5) Fixed load patterns are required for proper sterilization: It is not as much the location of the items, but the material make-up, wrapping, mass, loading procedures, and orientation of the load that defines the 'difficult-to-sterilize' locations.

  6) A steady state temperature distribution range of ± 0.5° C is necessary for all loads: This is desirable for terminal sterilization in final containers but it is not required for sterilization of production equipment. Distributions of 1° C to 2° C are acceptable.

Diane Battista, Ph.D., Johnson and Johnson, 'New Alternatives in Sterilization'

- Recent developments in sterilization technologies includes sterilization by use of:

  Light (Trade names are Pure Pulse and Pure Bright)

  Gaseous:

  Hydrogen peroxide (Playlyte, Hyperphase, Skan, VPHP)

  Ethylene Oxide (Oxyfume)

  Chlorine dioxide (Oxychlor, Dioxide)

- Two new technologies introduced in Q1 2000 are:

  Sterrad™ 100 Sterilization System: a hydrogen peroxide, low temperature gas system designed for most medical devices and materials without leaving toxic residues. It was designed to replace ETO.

  Isodox™ Sterilization System: Generates chlorine dioxide, which is designed for isolators, medical devices, and enclosures. This product was launched on March 21, 2000 and is the newest sterilization method today.

- Chlorine dioxide's mode of action is inactivation of protein function.

Heidi Wolgamuth, Ph.D., Steris Corp., 'New Alternatives in Sterilization'

- She described the Steris VHP1000 vapor phase hydrogen peroxide (VPHP) generator. There are over 500 in use in the world today.
- The system uses 31-35% peroxide which is sporicidal at low concentrations (typically 1-2 mg/L at 25° C).

- The sterilization cycle consists of 4 phases: Dehumidification (allows higher VPHP concentrations), Condition (ramps up the peroxide concentration), Decontamination (not allowed by FDA to call it sterilization because not all crevices may be contacted by the gas), and Aeration (removal of the gas).

David White, MD, Ph.D., University of Tennessee, ' Quantitative Assessment of Biofilms'

- To generate a reproducible experimental biofilm one must:
    1) Control the microbes (grow in continuous culture and inoculate each strain in sequence).
    2) Control the substratum (i.e., what they attach to)
    3) Control the bulk fluid (e.g., suboptimal nutrient concentration, pH, Eh)
- Some of the methods to monitor the biofilm non-destructively include fluorescence (specific if not quench, sensitive), spectrochemical (UV, IR), electrochemical (non-specific), piezoelectric, and wave guides.
- There is a rapid turnover in lipid in normal active, growing cells. Polar lipids (rather than neutral lipids), in particular, are indicative of life. In his laboratory, lipid extraction and measurement of biofilms by HPLC is employed.

USP Corner

The PMF recommends that you *write directly to the USP with your comments on all proposals.* You can write representing your company, or as an individual scientist.

Any questions concerning USP documents should be sent to Dr. Roger Dabbah. You can reach Dr. Dabbah at (301) 816-8336, via mail The United States Pharmacopeial Convention, 12601 Twinbrook Parkway, Rockville, MD 20852 or via e-mail at RD @ USP.org. When communicating with Dr. Dabbah, let him know you are a PMF member.

CHALLENGES FOR THE YEAR 2000

Tell us what you think are the top challenges that the Pharmaceutical Microbiologist will face in the new century. Email your list to slwood@ix.netcom.com.

Future Topics

The purpose of the Newsletter is a sharing of information among Microbiologists. Your contributions to the *PMF Newsletter* are needed in the form of short articles, letters to the Editor, job openings, comments, or suggestions. Please direct your correspondence to *PMF Newsletter,* c/o L. Valdes-Mora, 3166 Wood Valley Road, Panama City, FL 32405 [Tel (850) 763-5453]. Submit any articles with your name and phone number in case we need to contact you. Your name and company will not appear without prior written authorization.

REGULATORY CORNER

Examples in 1999 Warning Letters:

1. Media fills do not always represent the filling process they are designed to simulate. For example, vials are not filled in volumes of ----to---- but media fills for this room are always done in ---- volumes.
2. The media fill SOP does not require simulation of all interventions and processes of a normal filling, lyophilizer, procedures for capping, filling process interruptions and environmental monitoring.
3. Growth promotion testing is not performed in accordance with the license requirements. For example, growth promotion is not conducted using soybean casein digest medium.
4. Mold was observed on the walls and ceiling of walk-in cooler, in addition a majority of the flooring was covered in carpeting.

CALENDAR OF EVENTS

The Calendar of Events is provided as a service to PMF Newsletter readers. Submission of complete and accurate information will be published on a space-available basis.

June 26-27, 2000, Preparing for PAIs, CGMPS & Post Market Inspections, PDA Training and Research Institute, Baltimore, MD

Elite MicroSource Microbiology Seminars: Updates, Dissecting USP <1227>, Validation of Disinfectants, and Introduction to Pharmaceutical Microbiology.
-June 28 & 29, 2000. Chicago, IL
-July 11-12 Kansas City, MO
-August 16-17 Seattle, WA

July 16-20, 2000, Biofilms 2000, Big Sky Montana. Contact: ASM Conference, 1752 N St., NW, Washington CD, 20036.

July 23-27, 2000, SIM Annual Meeting and Exhibition, San Diego, CA. Contact: SIM, 3929 Old Lee Highway, STE 92A Fairfax, VA 22030

July 27-29, 2000, Conventional and New Sterilization Technologies: Principles and Practice, Ottawa, Ontario, Canada. Contact: Syed Satter, Center for Research on Environmental Microbiology Tel. 613-562-5800.

August 8-10, 2000, Pharmaceutical Water Systems: A Practical Approach, PDA Institute, Bethesda, MD

September 4-8, 2000, Dangerous Pathogens 2000: Bugs with Attitude, Plymouth, United Kingdom, Les Baillie, DERA Porton, Building 384 Porton Down, Salisbury SP4 0JQ UK.

Current Compendia

US Pharmacopeia (USP) 24 Supplement 2 (July 1, 2000)

European Pharmacopoeia (EP) 1997 / Supplement 2000

Japanese Pharmacopoeia (JP) XIII 1996 / Supplement II Jan 1, 2000

Chinese Pharmacopoeia (1995)

* If you use any other compendia, let us know for inclusion in this corner

Come Visit Our Website at http://www.microbiol.org/PMF.htm

Are you aware of our on-line discussion group? Membership is FREE. To join, send e-mail to Listserv@ microbiol.org. Write ['Subscribe PMFlist' Firstname Lastname] as the first line of text (message). You can ask, answer, or read questions of and comments from your colleagues.

The following Internet Sites may be of interest to you:

Internet Address	Description
http://www.fda.gov/cder/aerssub/default.html	AER Electronic Submissions
http://www.fda.gov/cder/directories/qi.html	CDER Quick Guide
http://www.comp.uark.edu/~mivey/micro/	Dr. Ivey's General Microbiology Course and Notes
http://www.comp.uark.edu/~wmason/	Jeff Mason's Microbiology Lab Home Page
http://www.cellsalive.com	Information on cells including video
http://www.trishul.sci.gu.edu.au/courses/ss12bmi/microbe_structure.html	Comparative information on Organization and Structure of Microorganisms
http://www.labcompliance.com	Information on electronic signatures, lab compliance, and more
http://www.fda.gov/ora/inspect_ref/igs/high/html	On-line copy of FDA July 1993 Guide to Inspections of High Purity Water Systems
http://www.access.gpo.gov/nara/lsa/lastmth.html	Changes and proposed changes to the CFR during the past month
http://www.vm.cfsan.fda.gov/~dms/fcannex5.html	HACCP Annex 5 Guidelines
http://www.fsis.usda.gov/OA/haccp/imphaccp.html	Index to additional sites in HACCP
http://www.fda/gov/ora/inspect_ref/igs/qsit/qsitguide.html	Guide to Inspections of Quality Systems
http://bmbl.od.nih.gov/	Biosafety in Microbiological and Biomedical Laboratories (from CDC and NIH)
http://dg3.eudra.org	EU Commission Guidelines
http://www.fda.gov/ora/cpgm/41_001.htm	ORA Chapter 41 Compliance Program Guidance
http://www.i2icorp.com	Searchable 483's
http://www.bio.com	Job placement
http://www.biospace.com	Job placement
http://www.careerpath.com	Job placement
http://www.bioview.com	Job placement
http://www.microbiologistjobs.com	Job placement
http://www.s2c2.co.uk/index.html#top	Scottish Society for Contamination Control: Summary of EU/ISO, and 209E particulate classifications
www.pharmig.org.uk.	Microbiology Interest Group (PharMIG)

If you have found an Internet site that contains information of relevance to pharmaceutical microbiology, please let us know.

Journal Highlights

A.N. Neeley and M.P. Maley, 2000. *Survival of enterococci and staphylococci on hospital fabrics and plastic.* Clin. Microbiol. 38: 724-726.

The researchers inoculated hospital fabric samples with a number of gram-positive bacteria. All the bacterial samples survived at least one day and many lasted as long as three months. The bacteria survived longest on polyester and other synthetic fibers.

"Data in this study indicated that staphylococci and enterococci can survive for extended periods of time on materials commonly worn by patients and health care workers and on various other fabrics in the hospital environment," the researchers note. The results also highlight the importance of meticulous control measures and thorough disinfection of hospital fabrics."

Compiled from the PMF List Discussion Group.

Question: I would like to ask the forum if there are any other acceptable methods for obtaining Bioburden limits besides using an average plus 3 standard deviations?

Response 1: Generally we calculate alert levels as the mean plus 2 standard deviations and the action levels as the mean plus 3 standard deviations. To date, I do not have another reference for such a determination.

Response 2: If you are talking about air quality limits for medical device manufacturing, you could set the limits based on historical data. If you are talking about product bioburden: the sterilization method dictates the limits and objectionable organism requirements. For Example, If one is sterilizing by ethylene oxide gas using the AAMI overkill method. The requirement for bioburden limits may be less than the population of the biological indicator with an absence of resistant organisms (*Pyronema, Clostridium,* and *Bacillus*). Most medical devices have low bioburden counts.

WORD SEARCH PUZZLE

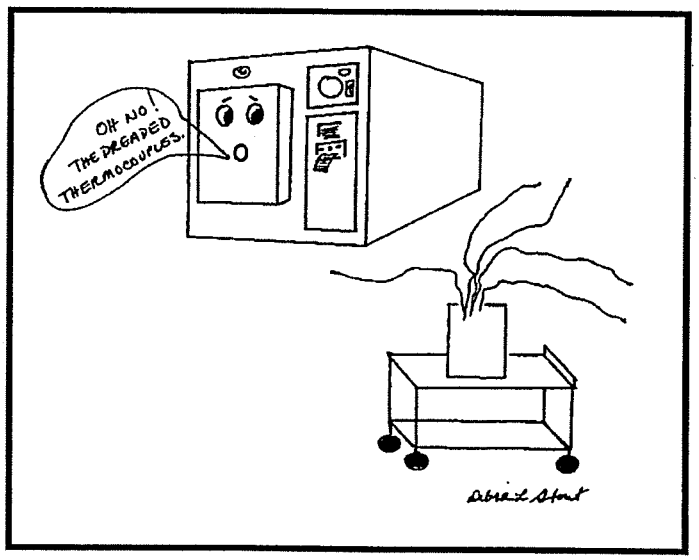
L	R	B	I	O	P	Y	E	A	S	T	D	Y	A	N
E	D	B	F	E	A	S	I	X	I	I	U	F	I	E
R	A	G	A	T	T	L	U	R	S	C	K	X	S	P
O	P	W	C	O	H	D	Y	I	Y	A	O	D	K	Z
M	D	X	U	Y	O	H	N	F	L	T	Q	E	L	L
J	N	N	L	R	G	F	Z	J	O	A	C	C	C	F
J	F	I	T	A	E	N	E	D	T	L	M	A	Y	L
F	X	V	A	C	N	A	N	T	U	A	P	P	L	G
A	J	K	T	O	D	E	X	V	A	S	H	J	P	F
F	E	A	I	R	K	Q	Q	Z	I	E	J	F	S	Z
Y	N	Q	V	P	L	W	P	D	V	H	D	S	T	J
T	M	X	E	O	S	X	W	K	U	B	D	L	M	S

Agar **Autolysis** **Capsid**
Catalase **Disinfectant** **Endotoxin**
Facultative **Pathogen** **Prokaryote**
USP **Yeast**

WORD SEARCH SOLUTIONS

S	M	L	D	B	U	K	W	X	S	O	E	X	M	T
J	T	S	D	H	V	D	P	W	L	P	V	Q	N	Y
Z	S	F	J	E	I	Z	Q	Q	K	R	I	A	E	F
F	P	J	H	S	A	V	X	E	D	O	T	K	J	A
G	L	P	P	A	U	T	N	A	N	C	A	V	X	F
L	Y	A	M	L	T	D	E	N	E	A	T	I	F	J
F	C	C	C	A	O	J	Z	F	G	R	L	N	N	J
L	L	E	Q	T	L	F	N	H	O	Y	U	X	D	M
Z	K	D	O	A	Y	I	Y	D	H	O	C	W	P	O
P	S	X	K	C	S	R	U	L	T	T	A	G	A	R
E	I	F	U	I	I	X	S	I	A	E	F	B	D	E
N	A	Y	D	T	S	A	E	Y	P	O	I	B	R	L

MICROTOON



Pharmaceutical Microbiology Forum
Membership Application
or
Change of Information Form

MISSION: The PMF provides a forum for pharmaceutical microbiologists to exchange information on microbiological issues in the pharmaceutical and related industries and interact with the USP and regulatory agencies.

THIS APPLICATION IS:

A New Member Application	
To Update my information, as indicated	
Membership Renewal	

Name:

Company:

Department:

Position (title):

	WORK (optional)	HOME (optional)
Phone:		
Fax:		
e-mail Address:		

Preferred Mailing Address

Address of the above Company ☐ A Home Address ☐ Other ☐

Address

Address

City, State

Country:

Zip

Please tell us how you heard about us: (add any details below under "Other")

Circulated Newsletter	☐	microbiology	☐
www.microbiol.org	☐	An Associate At Work	☐
Another internet site	☐	A PMF member or officer	☐
PMFLIST (an internet news list)	☐	Other (please describe)	

The PMF membership list is private, not for sale.
Membership dues are $15.00. Please send check or money order payable to the 'Pharmaceutical Microbiology Forum' to the address below. Renewal fees are $10.00 only to be paid when announced. Invoices are sent for renewals. PMF EIN number is 56-1874828.

Pharmaceutical Microbiology Forum
Lucia Clontz
c/o Serentec Inc.
612 W. Lane St.
Raleigh, NC 27603

The survey form included in this newsletter will compile valuable information regarding salary ranges among microbiologists. Have you ever seen salary surveys published and realize your pay scale is not in accordance with the survey? This is our chance to tabulate what really happens in our profession. Please take the time to fill the survey and return it to PMF. Feel free to make copies of the form and ask your colleagues to fill them out and send them, also. Let us make this a useful tool for our profession! Thank you in advance for your cooperation.

PMF Salary Survey 2000

CIRCLE ALL THAT APPLY TO YOUR CURRENT EMPLOYMENT

Education: (Highest Degree) AA BA/BS MA/MS Ph.D.

Geographic Area: Eastern (N) (S) Central (N) (S) West (N) (S)

Total Years of Experience: <5 5-10 11-15 16-20 >20

Years in Current Position <5 5-10 11-15 >15

Work Area: QA QC(Micro) (Analytical) Regulatory Manufacturing R&D Sales
Other:_____

Type of Product: Sterile non-sterile dosage Diagnostics Medical Devices Cosmetics
Food Contract (lab) (manufacturer)

Current Title: Analyst/technician Scientist Supervisor Manager Director
Other _____

Number of Company Employees; <50 50-100 100-500 500-1000 >1000

Salary Range in Thousands: <20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 >90

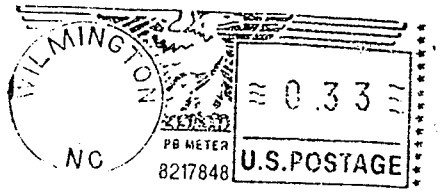
Comments:

DO NOT sign your name, or use your company name. Send your completed survey (no later than September 26, 2000) to:

Sharon Wood
755 Wimbledon Lane
Livermore, CA 94550-1749

The results will be tabulated and published in the next newsletter.

Pharmaceutical Microbiology Forum
c/o Sharon Wood
755 Wimbledon Lane
Livermore, CA 94550-1749
Address Correction Requested



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The Pharmaceutical Microbiology Forum is proud to have members in the following countries: Argentina, Belgium, Canada, Finland, Germany, Israel, Japan, Puerto Rico, The Netherlands, The United Kingdom and The United States.