



Vol. 39, No. 2  
JUNE, 2005

# *The Bovine* PRACTITIONER

THE OFFICIAL PUBLICATION OF THE  
AMERICAN ASSOCIATION OF BOVINE PRACTITIONERS

© Copyright American Association of Bovine Practitioners; open access distribution.



## 38th ANNUAL CONVENTION

American Association of Bovine Practitioners  
Salt Lake City, Utah  
September 24-26, 2005



# RESEARCH LEADS TO GOLD!

© Copyright American Association of Bovine Practitioners; open access distribution.

## Bovi-Shield® GOLD™. The New Standard.

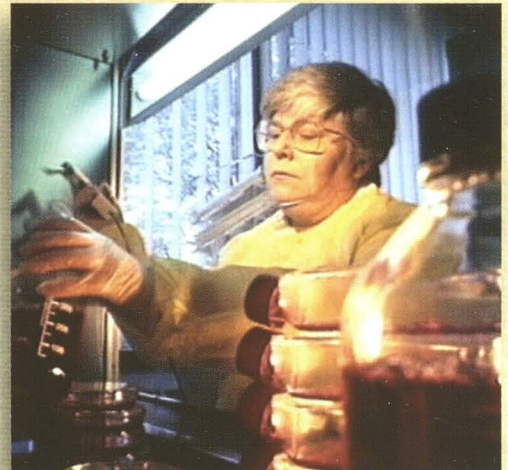
Extensive research has led to a reproductive and respiratory vaccine line like no other. With Bovi-Shield GOLD, Pfizer science offers you new levels of protection, safety and flexibility.

### Bovi-Shield GOLD line:

- Unique new BVD Type 2 strain.<sup>1</sup>
- Excelled against an extreme BVD Type 2 challenge model<sup>2</sup> no other vaccine manufacturer has ever published.
- Modified-live viral (MLV) vaccines safe for use in pregnant cows.\*
- MLV safe for use in nursing calves.\*
- Demonstrated 12-month safety interval.\*
- New protection to aid in the control of BVD Type 2 testicular infection.<sup>3</sup>

### Bovi-Shield GOLD FP™ line:

- Unprecedented BVD fetal protection—Types 1 & 2.
- Only vaccines approved as an aid in the prevention of IBR abortion.



Bovi-Shield GOLD FP—protection against IBR abortion and persistent infection from BVD Types 1 & 2 means more live calves.

Get new levels of safety and convenience with the Bovi-Shield GOLD line.

For more information, contact your sales representative or visit [www.bovi-shieldgold.com](http://www.bovi-shieldgold.com)

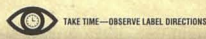
<sup>1</sup>Animal Health Laboratory, Laboratory Services Division, University of Guelph.

<sup>2</sup>Data on file, Study 3131R-60-02-258, Pfizer Inc

<sup>3</sup>Data on file, Study 3931E-60-03-311, Pfizer Inc

Bovi-Shield® and PregGuard® are registered trademarks and Bovi-Shield GOLD™, Bovi-Shield FP™, PregGuard GOLD™, PregGuard FP™, Beef Friendly™ and Gain everything. Sacrifice nothing™ are trademarks of Pfizer Inc.

©2004 Pfizer Inc BSD04026



**\*Label indications:** The Bovi-Shield GOLD line and PregGuard® GOLD FP™ 10 may be administered to pregnant cattle provided they were vaccinated, according to label directions, with the Bovi-Shield FP line or the Bovi-Shield GOLD FP line prior to breeding initially and within 12 months thereafter. The Bovi-Shield GOLD line of products may also be administered to calves nursing pregnant cows provided their dams were vaccinated prior to breeding as described above.



Pfizer Animal Health

## Bovi-Shield® GOLD™

Gain everything. Sacrifice nothing.™





# The Bovine PRACTITIONER

**EDITOR:**  
**ROBERT A. SMITH, DVM**  
3404 Live Oak Lane  
Stillwater, Oklahoma 74075  
Tel: (405) 372-8666  
FAX (405) 743-8422

**PRINTER:**  
**Frontier Printers, Inc.**  
205 W. 9th  
Stillwater, Oklahoma 74074

## OFFICERS

**President** ..... **Rich Meiring, DVM**  
Marysville, Ohio  
**President-Elect** ..... **John Ferry, DVM**  
Belleville, New York  
**Vice President** ..... **Charlie Hatcher, DVM**  
College Grove, Tennessee  
**Past President** ..... **Mark Spire, DVM**  
Manhattan, Kansas  
**Executive Vice President** ..... **M. Gatz Riddell, Jr., DVM**  
Auburn, Alabama  
**Treasurer** ..... **Mark Wustenberg, DVM**  
Bay City, Oregon  
**Parliamentarian** ..... vacant

## BOARD OF DIRECTORS

<b>Roger Saltman, DVM</b> Cazenovia, New York 1st District, 2005	<b>Andy Johnson, DVM</b> Seymour, Wisconsin 5th District, 2006	<b>Alan Herring, DVM</b> Litchfield Park, Arizona 10th District, 2005
<b>Darcie J. Stolz, DVM</b> Strasburg, Pennsylvania 2nd District, 2006	<b>Bill Seglar, DVM</b> Johnston, Iowa 6th District, 2007	<b>Scott Waltner, DVM</b> Eagle, Idaho 11th District, 2006
<b>Art Donovan, DVM</b> Gainesville, Florida 3rd District, 2007	<b>Wade Taylor, DVM</b> Oakley, Kansas 7th District, 2005	<b>Reny Lothrop, DVM</b> Cambridge, Ontario, Canada 12th District, 2007
<b>Michael Bolton, DVM</b> Greenville, Michigan 4th District, 2005	<b>Charlie E. Deyhle, Jr., DVM</b> Canyon, Texas 8th District, 2006	<b>Sjoert Zuidhof, DVM</b> Lethbridge, Alberta, Canada 13th District, 2005
	<b>John Schnackel, DVM</b> Fort Collins, Colorado 9th District, 2007	

## REPRESENTATIVE TO THE AVMA HOUSE OF DELEGATES:

**Mark Spire, DVM**  
Manhattan, Kansas  
**Samuel Hutchins, III, DVM**  
South Barre, Vermont  
**J. T. O'Brien & Assoc.**  
12118 Nieman Road  
Overland Park, KS 66213  
913-402-8383 Fax: 913-897-9047

## EXHIBITS MANAGER:

## ADVERTISING AGENCY:

THE BOVINE PRACTITIONER is published by the American Association of Bovine Practitioners, Inc., at **Frontier Printers, 205 W. 9th, Stillwater, OK 74074 (Tel: 405-372-8500; FAX 405-372-8523)**. Over 6000 copies are mailed to veterinarians engaged in cattle practice and allied institutions. Send new address (please include old address) to:

**AABP, P.O. Box 1755, Rome, GA 30162-1755**  
**Tel: 1-800-269-2227; FAX 706-232-2232**  
**e-mail: aabphq@aabp.org**  
**http://www.aabp.org**

THE BOVINE PRACTITIONER is the official publication of The American Association of Bovine Practitioners, published in February and June annually. It also serves as a communication medium between bovine practitioner organizations around the world. All manuscripts and communications must be presented in English.

Copies of THE BOVINE PRACTITIONER are available to non-members for \$25.00 per copy, surface mail, or \$33.00, airmail (overseas). Contact editor for details.





© Copyright American Association of Bovine Practitioners; open access distribution.

# How long are you willing to wait to get

Injectable  
**Baytril® 100**  
(enrofloxacin)  
Right the first time®

\*Data on file. [www.baytril100.com](http://www.baytril100.com) © 2005 Bayer HealthCare LLC, Animal Health Division, Shawnee Mission, Kansas 66201  
Bayer, the Bayer Cross, Baytril and Right the first time are trademarks of Bayer.





## your business back up to speed?

That sick calf is your business, and nothing gets your business back in line and back to work faster than Baytril®100 (enrofloxacin). That's because Baytril 100 is the only single-dose antibiotic that rapidly enters infected lung tissue, killing all three major BRD-causing bacteria.\* Calves feel better sooner and get back to eating faster. With over 25 million successfully treated animals in the U.S. alone, it's no wonder cattle veterinarians and producers waste no time reaching for Baytril 100 as their first-line defense against BRD. Extra-label use of this product in food-producing animals is prohibited.





# Baytril® 100

## (enrofloxacin)

100 mg/mL Antimicrobial Injectable Solution  
For Subcutaneous Use In Cattle Only

Not For Use In Cattle Intended For Dairy Production Or  
In Calves To Be Processed For Veal

### BRIEF SUMMARY:

Before using Baytril® 100, please consult the product insert, a summary of which follows:

### CAUTION:

Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

Federal (U.S.A.) law prohibits the extra-label use of this drug in food producing animals.

### INDICATIONS:

Baytril® 100 (enrofloxacin) injectable solution is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida* and *Haemophilus somnus*.

### ADVERSE REACTIONS:

No adverse reactions were observed during clinical trials. For medical emergencies or to report adverse reactions, call 1-800-422-9874.

### ANIMAL SAFETY:

Safety studies were conducted in feeder calves using single doses of 5, 15, and 25 mg/kg for 15 consecutive days and 50 mg/kg for 5 consecutive days. No clinical signs of toxicity were observed when a dose of 5 mg/kg was administered for 15 days. Clinical signs of depression, incoordination, and muscle fasciculation were observed in calves when doses of 15 or 25 mg/kg were administered for 10 to 15 days. Clinical signs of depression, inappetence, and incoordination were observed when a dose of 50 mg/kg had been administered for 3 days. No drug-related abnormalities in clinical pathology parameters were identified. No articular cartilage lesions were observed after examination of stifle joints from animals administered 25 mg/kg for 15 days.

A safety study was conducted in 23-day-old calves using doses of 5, 15, and 25 mg/kg for 15 consecutive days. No clinical signs of toxicity or changes in clinical pathology parameters were observed. No articular cartilage lesions were observed in the stifle joints at any dose level at 2 days and 9 days following 15 days of drug administration.

An injection site study conducted in feeder calves demonstrated that the formulation may induce transient reaction in the subcutaneous tissue and underlying muscle. No painful responses to administration were observed.

### WARNING:

Animals intended for human consumption must not be slaughtered within 28 days from the last treatment. Do not use in cattle intended for dairy production. A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.

### HUMAN WARNINGS:

**For use in animals only. Keep out of the reach of children.** Avoid contact with eyes. In case of contact, immediately flush eyes with copious amounts of water for 15 minutes. In case of dermal contact, wash skin with soap and water. Consult a physician if irritation persists following ocular or dermal exposures. Individuals with a history of hypersensitivity to quinolones should avoid this product. In humans, there is a risk of user photosensitization within a few hours after excessive exposure to quinolones. If excessive accidental exposure occurs, avoid direct sunlight. For customer service or to obtain product information, including a Material Safety Data Sheet, call 1-800-633-3796. For medical emergencies or to report adverse reactions, call 1-800-422-9874.

### PRECAUTIONS:

The effects of enrofloxacin on bovine reproductive performance, pregnancy, and lactation have not been adequately determined. Subcutaneous injection can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.

Baytril® 100 contains different excipients than other Baytril® products. The safety and efficacy of this formulation in species other than cattle have not been determined.

Quinolone-class drugs should be used with caution in animals with known or suspected Central Nervous System (CNS) disorders. In such animals, quinolones have, in rare instances, been associated with CNS stimulation which may lead to convulsive seizures.

Quinolone-class drugs have been shown to produce erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species. No articular cartilage lesions were observed in the stifle joints of 23-day-old calves at 2 days and 9 days following treatment with enrofloxacin at doses up to 25 mg/kg for 15 consecutive days.

NADA # 141-068, Approved by FDA

Bayer HealthCare LLC  
Animal Health Division  
Shawnee Mission, Kansas 66201 U.S.A.



©2004 Bayer HealthCare LLC

12635

August, 2004



# The Bovine PRACTITIONER

## Guidelines for Authors

*The Bovine Practitioner* is the official publication of The American Association of Bovine Practitioners, published in February and June annually. It also serves as a communication medium between bovine practitioner organizations around the world. All manuscripts and communications must be presented in English.

**Most articles in the journal are peer-reviewed or refereed. Papers submitted for publication in the peer-reviewed section are anonymously reviewed by three members of the editorial board. In some cases, papers may be reviewed by an outside expert(s) who is not a regular member of the editorial board. Papers published in the peer-reviewed section of the journal will be identified with a "Peer-Reviewed" banner at the top of the first page. Papers rejected by the editorial board for publication as peer-reviewed articles do not automatically qualify for publication in the non-peer-reviewed sections.**

Articles published in *The Bovine Practitioner* are intended to address the needs of bovine practitioners. Types of articles considered appropriate for the journal include research reports, case reports, review articles, retrospective studies and articles describing new techniques.

**All papers should begin with an abstract less than 250 words in length.** Research reports should follow with an introduction, materials and methods (including experimental design and statistical analysis), results, discussion and conclusions. At the author's discretion, results and discussion may be combined.

Case reports should be written to include an introduction, history, clinical findings, appropriate laboratory data, surgical/therapeutic management, discussion and conclusions.

Review articles covering topics important to the practitioner are welcome. They should address more recent advances and bring the reader cutting edge information related to bovine practice or to beef or dairy production.

Papers reporting retrospective studies should include an abstract, introduction, clinical implications or objectives of the study, the methodology used to evaluate the data, a section that details the significance of the findings to the practitioner and conclusions.

**Two manuscripts and a diskette or CD should be submitted to the editor through the mail or via a parcel delivery service. Manuscripts should be double-spaced, using 12-point Times type and 1-inch margins. Both lines and pages should be numbered. When possible Microsoft Word should be used.**

Figures, tables and photographs are welcome. Figures should be numbered on the back: legends for figures should be submitted on a separate sheet of paper. When photographs are submitted, prints are preferred over 2x2 slides.

English units of measure should be used for weights, measures and temperature. If the author desires, it is acceptable to follow English units with metric units in parenthesis, i.e....440 lb (200 kg) steer had a rectal temperature of 101.5°F (38.6°C). When the use of brand names is necessary, they should be listed in footnotes, including the name of product, manufacturer, and manufacturer's city and state.

References to literature cited in the paper must be identified in the text by the use of superscripts. References should be listed in **alphabetical order**. Suggested style for citations in the reference section is as follows:

1. Allen WM, Sansom BF: Parturient paresis (milk fever) and hypocalcemia (cows, ewes, and goats), in Howard JL (ed): *Current Veterinary Therapy III. Food Animal Practice*. Philadelphia, WB Saunders Co, 1993, pp 304-308.
2. Barth AD, Cates WF, Harland RJ: The effect of body fat and loss of fat on breeding soundness classification of beef bulls. *Can Vet J* 36:758-764, 1995.
3. Nutrient Requirements of Beef Cattle, ed 7. Washington DC, National Academy Press, 1996.
4. Syvrud R: Vaccination for bovine respiratory syncytial virus: Benefits for both cow/calf and feedlot cattle. *Proc Am Assoc Bov Prac* 21:204-206, 1989.

**All correspondence and manuscripts should be addressed to:**  
**The Bovine Practitioner**  
**Dr. Bob Smith, Editor**  
**3404 Live Oak Lane**  
**Stillwater, OK 74075**  
**405-372-8666 Office**  
**405-743-8422 Fax**

# Table of Contents

A Probable Source of <i>Neospora caninum</i> Infection in an Abortion Outbreak in Dairy Cows — <i>Milton M. McAllister, Richard L. Wallace, Camilla Björkman, Liying Gao, Lawrence D. Firkins</i> .....	69
Congenital Myopathy, Cardiomyopathy and Vitamin E and/or Selenium Levels in Cattle: A Retrospective Study of 1208 Abortion Cases — <i>Behzad Yamini, Jon S Patterson, Thomas P Mullaney, Howard D Stowe</i> ...	75
An Assessment of the Benefits of Orbeseal® When Used in Combination with Dry Cow Antibiotic Therapy in Three Commercial Dairy Herds — <i>NB Cook, DA Pionek, P Sharp</i> .....	83
Considerations for Bovine Viral Diarrhea (BVD) Testing — <i>R.L. Larson, B.W. Brodersen, D.M. Grotelueschen, B.D. Hunsaker, W. Burdett, K.V. Brock, R.W. Fulton, D.R. Goehl, R.W. Sprowls, J.A. Kennedy, G.H. Loneragan, D.A. Dargatz</i> .....	96
Prevalence of Bovine Viral Diarrhea Virus in Young Purebred Beef Bulls in Kansas — <i>David P. Gnad, Paul H. Walz, Jan M. Sargeant, Peter J. Chenoweth</i> .....	101
A Comparison of Serological Responses when Modified-Live Infectious Bovine Rhinotracheitis Virus Vaccine and <i>Mannheimia haemolytica</i> Bacterin-Toxoid are Administered with Needle-free versus Conventional Needle-based Injection in Yearling Feedlot Steers — <i>Larry C. Hollis, John F. Smith, Bradley J. Johnson, Sanjay Kapil, Derek A. Mosier</i> .....	106
A Comparison of Serological Responses when Modified-live Infectious Bovine Rhinotracheitis Virus Vaccine, <i>Mannheimia haemolytica</i> Bacterin-Toxoid and <i>Leptospira pomona</i> Bacterin are Administered with Needle-free versus Conventional Needle-based Injection in Holstein Dairy Calves — <i>Larry C. Hollis, John F. Smith, Bradley J. Johnson, Sanjay Kapil, Derek A. Mosier</i> .....	110
Baseline Management Practices and Animal Health Data Reported by US Feedlots Responding to a Survey Regarding Acute Interstitial Pneumonia — <i>Amelia R. Woolums, Guy H. Loneragan, Larry L. Hawkins, Shamita M. Williams</i> .....	116
A Survey of the Relationship Between Management Practices and Risk of Acute Interstitial Pneumonia at US Feedlots — <i>Amelia R. Woolums, Guy H. Loneragan, Larry L. Hawkins, Shamita M. Williams</i> .....	125

## Advertisers Index

Addison Labs .....	115
AgriLabs .....	82
Bayer HealthCare LLC .....	front of book
Elanco Animal Health .....	back of book, inside back cover
Fort Dodge Animal Health .....	95
Pfizer Animal Health .....	inside front cover, 105, back of book, back cover
Pulse NeedleFree Systems .....	109

*Cover photo courtesy of Dr. Brett A. Gardner, Garden City, Kansas*

*Abstracts were translated to French by Dr. Guy Beauchamp and reviewed by Dr. Emile Bouchard.*

### Notice to Readers

All statements, opinions and conclusions contained in articles in *The Bovine Practitioner* are those of the author(s), and are not necessarily those of the American Association of Bovine Practitioners (AABP) unless specifically approved by the AABP Board of Directors.