

# Theriogenology: From Concept to Actuality

*Extracts from the first lecture in the David E. Bartlett Lecture Series presented by Dr. David E. Bartlett at the Annual Fall Conference of the Society for Theriogenology, September 26-28, 1984 in Denver, Colorado.*

The American College of Theriogenology (ACT) has been an actuality since its recognition at the AVMA's 108th Annual Meeting in Detroit, Michigan in July of 1971.

In the USA, the roots from which theriogenology has evolved may be found in the classic texts of Prof. W.L. Williams of Cornell University. In 1909, Williams published *Veterinary Obstetrics; Including the Diseases of Breeding Animals and the New-Born*. During the subsequent three decades, Williams published several editions of both *Veterinary Obstetrics* and a companion volume, *Diseases of the Genital Organs of Domestic Animals*.

In the mid 1960's, the AVMA began encouraging the formation and recognition of specialty groups to be identified as Boards or Colleges. The AVMA's Advisory Board of Veterinary Specialties was established with responsibility to guide and monitor developing organizations.

In the spring of 1970, upon initiative of Dr. Lloyd Faulkner, a fresh start was undertaken. A new Organizing Committee consisted of:

Professor Raimunds Zemjanis  
Veterinary Clinic, School of Veterinary Medicine,  
University of Minnesota.

Professor Stephen J. Roberts  
Department of Large Animal Medicine, Obstetrics  
and Surgery, New York State Veterinary College,  
Cornell University.

Professor Fayne Oberst  
Large Animal Clinic, College of Veterinary Medi-  
cine, Michigan State University.

Professor John Kendrick  
Department of Reproduction, Veterinary Clinic,  
University of California.

Professor Lloyd C. Faulkner  
Animal Reproduction Laboratory,  
Colorado State University.

Dr. David E. Bartlett  
Vice President Production and Veterinarian,  
American Breeders Service, DeForest, Wisconsin  
- as spokesman for the Committee.

As needs or opportunities within the livestock industry appeared, some veterinarians had extended their activities into the multitudinous facets of reproduction. Obviously, *veterinary obstetrics* was no longer appropriate nor descriptive of their scopes of activity. In fact, obstetrics had become minor. Phrases such as *veterinary obstetrics, genital diseases and animal reproduction, veterinary reproduction, breeding soundness* represented combinations that were too limited or fell short.

Granted, *veterinary gynecology* and *veterinary andrology* were established words in Europe. But, herein was a problem. In their origins from the Greek, *gynos* does not mean "female". It means "woman". *Andros* does not mean "male". It means "man".

Out of frustration was born opportunity. A new organization needed a new name. A growing area of veterinary medicine was in critical need of an identity and a name.

Professor Herbert Howe, Department of Classics, University of Wisconsin, was consulted. He was a long time teacher of a course for students of pre-medical sciences in the Greek and Latin origins of medical terminology. Professor Howe came up with close to the same proposal of twenty years earlier: *theriogenology*, note *gen*.

Howe's word, theriogenology, was etymologically correct. It gathered mammals - both male and female - and reproduction - both physiology and pathology. Usage could relate this properly structured word to veterinarians and to veterinary medicine. Has anyone ever heard of a gynecologist who was not a physician?

The possibility of an American College of Theriogenologists was first presented to the previously mentioned Organizing Committee in a letter dated May 14, 1970. Initial committee responses were prompt and substantially affirmative.

Fortuitously, a new edition of the principal text in the field, authored by Professor Stephen Roberts of Cornell, was in final process. It appeared under the title: *Genital Diseases and Obstetrics (Theriogenology)*.

For the first time, a succinct identity was provided. With a single word, a previously fragmented and undefinable field was unified and defined.

Not until delineation of an "ology" was it possible for there to be an "ist"!

In 1974, the American Veterinary Society for the Study of Breeding Soundness changed its name to the Society for Theriogenology. During a transitional phase of four years, both names were used. This change has

been accomplished in an orderly and effective manner. The scope of the Society for Theriogenology was broadened to include all species served by veterinary medicine.

Finally, what an enviable state prevails for today's veterinarians with interests in reproduction!

Needs existing in the animal industries afford opportunities.

The technical capabilities to increase reproduction and productive efficiencies exist.

**Two strong, complementary organizations, dedicated to advocacy of theriogenology and to advancing education in theriogenology, The Society and the College, are functioning.**

**Your future can be and will be substantially influenced by how well these two vehicles are chauffeured.**

## Micotil® 300 Injection

Tilmicosin Phosphate

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

**Human Warnings:** Not for human use. Injection of this drug in humans may be fatal. Keep out of reach of children. Do not use in automatically powered syringes. Exercise extreme caution to avoid accidental self injection. In case of human injection, consult a physician immediately. Emergency medical telephone numbers are 1-800-722-0987 or 1-317-276-2000. Avoid contact with eyes.

**Note to Physician:** The cardiovascular system appears to be the target of toxicity. This antibiotic persists in tissues for several days. The cardiovascular system should be monitored closely and supportive treatment provided. Dobutamine partially offset the negative inotropic effects induced by Micotil in dogs.  $\beta$ -adrenergic antagonists, such as propranolol, exacerbated the negative inotropy of Micotil-induced tachycardia in dogs. Epinephrine potentiated lethality of Micotil in pigs.

**For Subcutaneous Use in Cattle Only. Do Not Use in Automatically Powered Syringes.**

**Indications:** Micotil is indicated for the treatment of bovine respiratory diseases (BRD) associated with *Pasteurella haemolytica*.

**Description:** Micotil is a solution of the antibiotic tilmicosin. Each mL contains 300 mg of tilmicosin base as tilmicosin phosphate in 25% propylene glycol, phosphoric acid as needed to adjust pH and water for injection, q.s. Tilmicosin phosphate is produced semi-synthetically and is in the macrolide class of antibiotics.

**Actions:** Activity — Tilmicosin has an *in vitro*\* antibacterial spectrum that is predominantly gram-positive with activity against certain gram-negative microorganisms. Activity against several mycoplasma species has also been detected.

Ninety-five percent of the *Pasteurella haemolytica* isolates were inhibited by 3.12  $\mu$ g/mL or less.

Microorganism	MIC ( $\mu$ g/mL)
<i>Pasteurella haemolytica</i>	3.12
<i>Pasteurella multocida</i>	6.25
<i>Haemophilus somnus</i>	6.25
<i>Mycoplasma dispar</i>	0.097
<i>M. bovirhinis</i>	0.024
<i>M. bovoculi</i>	0.048

\* The clinical significance of this *in vitro* data in cattle has not been demonstrated.

**Directions — Inject Subcutaneously in Cattle Only.** Administer a single subcutaneous dose of 10 mg/kg of body weight (1 mL/30 kg or 1.5 mL per 100 lbs). Do not inject more than 15 mL per injection site.

If no improvement is noted within 48 hours, the diagnosis should be reevaluated.

Injection under the skin behind the shoulders and over the ribs is suggested.

**Note —** Swelling at the subcutaneous site of injection may be observed but is transient and usually mild.

**CONTRAINDICATION:** Do not use in automatically powered syringes. Do not administer intravenously to cattle. Intravenous injection in cattle will be fatal. Do not administer to animals other than cattle. Injection of this antibiotic has been shown to be fatal in swine and non-human primates, and it may be fatal in horses.

**CAUTION: Do Not Administer to Swine. Injection in Swine Has Been Shown to be Fatal.**

**WARNINGS:** Animals intended for human consumption must not be slaughtered within 28 days of the last treatment. Do not use in female dairy cattle 20 months of age or older. Use of tilmicosin in this class of cattle may cause milk residues. Do not use in veal calves, calves under one (1) month of age, or calves being fed an all milk diet. Use in these classes of calves may cause violative tissue residues to remain beyond the withdrawal time.

**CAUTION:** The safety of tilmicosin has not been established in pregnant cattle and in animals used for breeding purposes. Intramuscular injection will cause a local reaction which may result in trim loss.

**How Supplied:** Micotil is supplied in 50 mL, 100 mL and 250 mL multi-dose amber glass bottles.

**Storage:** Store at room temperature, 86°F (30°C) or below. Protect from direct sunlight.

Literature revised April 8, 1994

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NADA 140-929 Approved by FDA  
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Micotil™

It's time.