



# Proceedings of the Fourth Symposium on Veterinary Pharmacology and Therapeutics

Sponsored by  
**THE AMERICAN ACADEMY OF  
VETERINARY PHARMACOLOGY  
AND THERAPEUTICS**

**HELD AT TEXAS A&M UNIVERSITY  
1984**



THE AMERICAN ACADEMY OF VETERINARY PHARMACOLOGY AND THERAPEUTICS

Presents the

PROCEEDINGS

of the

Fourth Symposium on Veterinary Pharmacology and Therapeutics

held at the

College of Veterinary Medicine  
Texas A&M University  
College Station, Texas

April 25-27, 1984

Edited by: W. L. Jenkins

## PREFACE

The American Academy of Veterinary Pharmacology and Therapeutics is dedicated to improving the understanding of the action of drugs in animal species. Sponsorship of Symposia and Workshops is an important function of the Academy in that it is a means of creating a forum on issues of interest to veterinary pharmacologists and clinicians from academia, industry, regulatory agencies, private practice and other sectors of the veterinary profession. This fourth symposium addressed itself to a number of topics of broad concern. These included the future of veterinary pharmacology and veterinary pharmacy, modern anthelmintics and their pharmacological properties, novel drug delivery systems, oncology, management of a veterinary pharmacy, and selected therapeutic aspects of gastroenterology and cardiology. In addition, a spectrum of research communications were presented that reflected some current areas of interest for veterinary pharmacologists.

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## ACKNOWLEDGEMENTS

The American Academy of Veterinary Pharmacology and Therapeutics would like to express its thanks and appreciation to the following pharmaceutical companies and academic departments at Texas A&M University for the generous financial support that they provided which made this symposium possible.

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VETERINARY TEACHING HOSPITAL

The Academy also wishes to recognize the sterling efforts of Dr. Walter F. Juliff and his staff from the Office of Veterinary Continuing Education at Texas A&M University, who contributed so much to the success of the Fourth Symposium.

The untiring assistance of Mrs. Lynn Friedlander, Mrs. Tammy Cooper and Mrs. Corine Van in the preparation of these proceedings deserves special praise from the Academy.

The important role that the following persons played by chairing the scientific sessions is also gratefully acknowledged: Dr. Carl Aronson, Dr. Tom Powers, Dr. Bill Miner, Dr. Desmond Baggot, Dr. Art Aronson, Dr. Bill Huber, Mrs. Doris Faught, Dr. Charles Short and Dr. Lloyd Davis.



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## RESOLUTION

Whereas the subject matter for the Fourth Symposium of the American Academy of Veterinary Pharmacology & Therapeutics has been planned with much insight, appreciation and relevance, and the selection of speakers has been accomplished with excellent judgement;

Whereas the travel reception and facilitation has greatly exceeded what is normally expected;

Whereas the nutrient needs of the symposium attendees can be described as *bon vivant ambiance*;

Whereas the hospitality has been most gracious and sincere in a desire to make our visit pleasurable and informative;

Therefore be it resolved - that Dr. Jenkins, Dr. Juliff, their colleagues and staff receive a standing accolade of appreciation and that a copy of this Resolution be transmitted to the Dean of CVM and the President of TAMU.

*Carl E. Aronson*

Carl E. Aronson, Ph.D., President

Adopted

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WELCOMING REMARKS

Dr. Carl E. Aronson, President, A.A.V.P.T.

It is a pleasure and privilege for me to welcome each of you to the 4th Symposium on Veterinary Pharmacology & Therapeutics. When our organization was chartered back in 1977, one of its stated goals was to sponsor meetings and symposia relating to Veterinary Pharmacology & Therapeutics in order to provide a forum for us to meet to discuss items of interest and concern to our discipline and the veterinary profession.

In 1978, we held our first Symposium at Louisiana State University in Baton Rouge, the second was held at the University of Pennsylvania in Philadelphia in 1980, the third took place in 1982 at The Ohio State University in Columbus, and this year we are extremely pleased to be meeting here at Texas A&M University, in College Station.

On behalf of the Academy, I would sincerely like to thank Dean George C. Shelton for opening his School to us, and our President-Elect, Dr. William Jenkins, for serving as our host and symposium organizer. We appreciate the many hours of planning and work that Bill and all the members of his staff and Dr. Walter Juliff and the Office of Continuing Education have put into preparing for this meeting, and we look forward to enjoying both the interesting scientific program and the social events that have been arranged for our pleasure. I would also like to thank our Program Committee and Finance Committee for their part in helping us ensure the success of this meeting.

We greatly appreciate and acknowledge the generous financial support that the pharmaceutical industry provided to help us meet the expenses associated with this Symposium. A poster in the adjoining room provides the name of each company that contributed, and they will also be acknowledged and listed in the printed proceedings of this Symposium that will be published in the near future.

Last, but certainly not least, I would like to express our thanks and appreciation to each of the speakers on our program for the papers that they will be presenting in our formal sessions.

Thank you!