

Challenges Facing the Bovine Veterinarian in the 21st Century

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A. Commitments and Goals of This Congress

It is a tremendous thrill for me to see this Congress come to fruition after over six years of preparation. When, as Dean of Minnesota's College of Veterinary Medicine, I joined with the officers of AABP, Harold Amstutz and Eric Williams, during the tail-end of a hurricane in Dublin, Ireland in 1986, to make a bid for this 17th World Congress of Buiatrics to be held in the Twin Cities in 1992, certain commitments were made. These included:

- 1) The assurance that Production and Health Management would be included in a population-based context with a focus on computer-assisted quantitation of information as a basis for modelling and decision-making. An analysis of the combination of the pre-convention seminars and the official program shows that the intended options were provided in this area with special emphasis on nutrition, reproduction and mastitis control.
- 2) Also promised were frontier studies in the underlying sciences and technologies necessary for the continued progress of applied bovine internal medicine and the development of strategies for its future success. The growing mastery and use of molecular genetics has been stressed.

A very significant factor in attaining these two central goals in a relevant way was the selection and recruitment of the keynote speakers. Their superb presentations provided guiding perspectives about current research in a historical context and valuable informed predictions about likely developments in the coming decades. They were reinforced by the authors of the many fine submitted papers and posters. Other focal points included environmental protection and safe waste recycling, efficacy and safety of products used to enhance

health and profitability, concerns for the well-being of the animals themselves, control of major infectious diseases, and protection of the public health with an epidemiological approach to zoonotic risk factors and residues, and an opportunity for some bovine practitioners to enlighten their colleagues with practice tips. A great deal of credit must go to Darrel Johnson, overall Program Chairman, for completion of all facets, including the AABP components, the seminars and practice tips.

B. Challenges Ahead for Buiatrics

Vern has already addressed this from the perspective of producers, processors and consumers in his excellent overview of the cattle industries as he looks ahead the next few decades. I would like to touch on a few aspects that I think need attention by veterinarians serving the cattle industries. The following dozen topics will be considered very briefly:

1. The veterinarian has a special responsibility for the education of his/her clientele and the public on matters pertaining to animal agriculture, in view of the current political attack on the cattle industries, particularly beef. Deliberate distortions by pseudo-scientists unwarranted extrapolations and political fear-mongering are aligned in a peculiar war against informed, accurate, well-intentioned efforts to set the record straight and guide future decisions. It all seems designed to assign all the sins of the modern world to man's exploitation of the lowly cow. One can only deplore this blatant politicizing of animal agriculture but it must be turned to the advantage of the industry by strengthening any weak points and highlighting the responses being made to society's concerns.
2. The necessity to make a major commitment

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- to the resolution of environmental risks, particularly from intensive dairy operations, as the units get larger. More effective recycling of animal wastes into energy or fertilizer is programmable and must be developed. Also range management needs careful consideration and must be programmed to balance animal populations and forage productivity.
3. There is inadequate attention given to microbial risk factors for public health arising from cattle operations. This is so important because the polluting agent can multiply in the product in some cases, as well as continuing to produce toxins. Epidemiological modelling can yield evidence of errors that can be programmed out.
 4. The evolution or appearance of new diseases of cattle that may become zoonoses or increase in importance for livestock health is a growing concern. Accurate diagnostic methods, sound epidemiological analyses and strategic control measures are the basis for the development of effective control programs.
 5. The lessons of the fire retardant chemical error in Michigan and of BSE in the UK show there is a need for greater attention to a monitoring and fast response system for protection of the food chain from unanticipated risk factors. This will help ensure that animal productivity is maintained while risks for people are minimized and public concerns are supplanted by confidence in a sound system to protect animal and human health.
 6. Exploitation of computer-assisted systems for better monitoring and management of performance to move closer to optimizing the exploitation of the available genetic potential. This is coming fast in the dairy industry as you can see from the popular seminars and papers at this Congress. These systems also identify opportunities to contain costs and optimize profits.
 7. There is a necessity of keeping animal welfare on the front burner at all times. This includes establishment of a basic routine of husbandry with unimpeachable standards, minimizing stress, as well as an adequate response system to deal with anticipated or unanticipated environmental stresses due to climatic change, power failures, staff replacements, feed or ration changes, overcrowding, epidemics and intoxications.
 8. A new and more intense focus on genetics is timely to enhance genetic potential while avoiding untoward traits. Also it will be necessary to resolve political impediments to the deployment of proven developments in molecular biology as they become approved by regulatory agencies. Viral diseases and cancers will be of particular concern as markers become available to aid diagnosis.
 9. It is long overdue to insist on adequate outcomes research for all drugs used in food animals, adherence to acceptable standards for therapeutic and prophylactic formulations, dosages and intervals. Quality Assurance programs are under way. Residues must be kept below limits defined as safe and acceptable. It will be especially important to understand the constraints on products used chronically such as the ionophore feed-additive antibiotics and, possibly, bovine somatotrophin.
 10. More attention is called for in training the work force in all techniques they will be expected to use, in the establishment of humane principles and attitudes, and in the prompt and adequate responses required for common problems. There will be enormous changes in veterinary education as expectations are raised to develop mastery of the intellectual field and technologies of a chosen career track. Tomorrow's veterinary student will be challenged to learn to think independently and solve problems. Leading practitioners will be asked to play a growing role in clinical and epidemiological education and investigation.
 11. The profession should focus on consumer perceptions as well as insist upon rigorous scientific nutritional and pathophysiological evidence in developing genetic and marketing targets for product quality. Healthful diets have become a significant goal of a large and growing segment of society. Another group invests in gourmet meals while many make dietary decisions

based mainly on price. Unfortunately, the combination of evangelical researchers and media advocates has created a misleading perspective on nutritional risk factors.

12. Number 12 was going to address the observation that there needs to be research on why bovine veterinarians tend to lose their hair prematurely but Dr. Amstutz talked me out of that! So I made a change in gender focus to remind you that veterinary student demography makes it clear that the audience at these Congresses in the 21st century will become progressively more feminine. **I regard this as the biggest change affecting the profession in the 21st century. Women graduates in veterinary medicine will progress from 5% of the work force and 10% of the graduates to 50% of the work force by 2010, perhaps stabilizing at about 60% by 2020-2030. We must prepare for and assist this change. In addition there will be big changes in career attitudes and lifestyles of veterinarians.**

CONCLUSION

Practitioners must develop a broader understanding of society's demands and expectations. They must modify attitudes to become more sensitive to the major concerns about personal health, environmental health and esthetics (i.e., conscious responses to what you see, smell and hear), and the wellbeing of the cattle themselves. They must contribute to finding solutions to these concerns. They will have to interact more with other specialists in tackling complex problems. The daunting task of keeping up-to-date on new developments should become easier as data processing systems become more comprehensive and readily accessible.

Above all, there must be a renewed commitment to integrity at all levels of production, health and services. The deregulators would have us believe that profit is all that we should worry about. The evidence of history from times before protective legislation indicates that this is not so. A combination of significant incentives and implementable regulations is necessary to establish and maintain appropriate ethical standards.



1970 WAB-AABP Convention at Philadelphia, PA