

THE DEVELOPMENT OF CONTINUING EDUCATION OPPORTUNITIES FOR VETERINARIANS IN DAIRY HEALTH MANAGEMENT

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BACKGROUND INFORMATION

A little more than thirty years ago, the concept of planned health care for dairy herds was introduced. Since then, health management strategies have slowly evolved within the constraints of producer acceptance and the many pressures of food animal practice (1). Over the same time period, the dairy industry has been increasingly challenged by consumer demands for safer food products, by pressures for production efficiency, and by the availability of new technologies. Often, producers that have strived to meet these challenges have recognized the veterinarian as an important source of information and advice. In addition, producers have realized that a comprehensive health management program can form the sound foundation necessary to meet their new challenges.

The opportunities presented by these challenges have not always been seized by members of the veterinary profession. Many food animal veterinarians have wanted more training and support before engaging in comprehensive health management programs with their clients. In addition, the important concepts of documenting the cost effectiveness of their services, and of convincing farmers that their programs would enhance profitability, have not come easily (2,3).

From an educational perspective, the curricula of many veterinary colleges have made some progress in meeting the needs created by changes in the dairy industry (4). Courses in epidemiology and quantitative methods have become prominent throughout the undergraduate programs. The principles and practice of health management have been emphasized, both in lectures and in clinical rotations (5). However, comprehensive information-based health management programs must be built upon expertise in production analysis, nutrition, environmental assessment, economics and principles of agribusiness (2). Traditionally, these subjects have been given very little attention in undergraduate veterinary medical education. As an initial step towards changing this situation, some of this material has recently been incorporated as special electives to senior students. Despite these changes in the undergraduate program, the vast majority of practitioners have had to gain knowledge in these crucial areas on their own (6). Thus, the need for intensive continuing education in dairy health management became apparent. The objective of this paper is to outline the development of comprehensive continuing education programs in dairy health management for veterinary practitioners.

INTRODUCTION

Historically, regional and national veterinary associations have served a much needed role in the continuing education of the profession. This was done using focused one-topic seminars, as well as presentations covering a wide range of general topics. At species specialty group meetings, such as the American Association of Bovine Practitioners (AABP), pre-convention workshops from one to three days in length have been used to cover a broad range of important dairy health management topics. These seminars have provided the desired depth and intensity of subject coverage. However, with such meetings held only once per year, it has been difficult for an individual practitioner to develop the continuity of educational exposure necessary to build a complete slate of seminars (7). These continuing education programs have not offered a planned approach for the progression of courses. In addition, there is no accepted way to assess competency, nor respond to the on-going individual needs of the practitioners enrolled. It would be difficult to document a significant change in overall dairy health management programs implemented by the majority of participating practitioners

GRADUATE TRAINING PROGRAMS

As one solution, residency and graduate degree programs have become available in dairy health management at some veterinary schools. The components and structure of these programs vary greatly from university to university. Most of these degree programs involve didactic graduate courses, research, clinical service, and teaching of undergraduate students. However, it is the emphasis and distribution of effort that varies widely. The most common type of program is a combination of residency training with a Masters in Science degree. This is usually a three-year program consisting of two years of clinical training with course-work and one year of research (8). Although several universities offer programs of this nature, very few focus on important aspects of dairy health management.

The degree component of the residency-based programs is also variable. Some have a course-oriented emphasis such as the Masters in Preventive Veterinary Medicine (MPVM). Others have a strict research emphasis leading to a Masters in Science (MSc). At the Ontario Veterinary College in Guelph, Ontario, Canada, a Doctor of Veterinary Science (DVSc) graduate degree program has been developed. This degree has a roughly equal emphasis on course work, on epidemiology and quantitative methods, on clinical training and on health management research. There are two positions, that run concurrently on an overlapping basis.

In-house graduate programs provide excellent training for a few individuals, that are not financially bound to a practice, and who have the opportunity to re-locate. Most of the individuals that enter these programs, develop a long-term objective of remaining at an academic institution. Generally speaking, graduate programs do not meet the needs of most dairy practitioners. These veterinarians wish to enhance their skills through advanced training, as well as provide new services and benefits to their clients, while remaining in private practice.

DAIRY HEALTH MANAGEMENT CERTIFICATE PROGRAMS

Recently, a task force surveyed the continuing education needs of veterinary practitioners in Ontario (9). The resulting report gave a mandate to various groups for filling these needs. Because of their extensive resources of staff and facilities, veterinary colleges were seen as the logical place to conduct the in-depth workshops, in order to fulfil the need for comprehensive hands-on programs for veterinary practitioners. Regional associations and species specialty groups were charged with the continued responsibility for providing general up-date sessions and focussed one-topic seminars (9).

In order to address the continuing education needs of dairy practitioners in eastern Canada, the Ontario Veterinary College, University of Guelph, developed the Dairy Health Management Certificate Program. In the planning stages, all of the topics considered to be important for the implementation and delivery of a dairy health management program were listed. These topics were then organized into a progression of two to three day sessions each building on one another. Unlike most other continuing education programs, the content and structure largely determined the agenda; as opposed to the content being limited to the time available. The objectives of this program were:

1. To provide a modular system of continuing education seminars which would build upon basic principles, and encourage the development of applied health management skills.
2. To integrate the series of seminar units through a combination of detailed lectures and hands-on workshops, as well as self-study materials and practical assignments.
3. To encourage the development of skills in problem solving, consultation and teaching.
4. To encourage the cascade of health management information to producers, and the processing industries, through the further extension efforts of participants in the certificate program.

The program was organized into a series of modules. Each module had three components. To begin each module, reading materials or study herd exercises were prescribed. This was followed by a two or three day workshop covering the subject in considerable detail. Many of the workshops utilized guest speakers and relied heavily on the program advisors, Drs. Neil Anderson and Otto Radostits, who presented considerable portions of the material. The final component of each module was an assignment that emphasized the implementation of health management programs in the herds served by the participating practitioners.

The first OVC Dairy Health Management Certificate Program consisted of 13 modules delivered between January 1990 and November 1991. The content of these modules were as follows:

1. **Monitoring health and performance**
 - measuring herd performance
 - monitoring methods and setting goals
 - evaluation of effects of health on performance
2. **Microcomputing for dairy practitioners**
 - introduction to microcomputers
 - practical applications for dairy practice
 - accessing large data bases
3. **Implementation of Nutritional Management**
 - feeding strategies
 - nutritional consultation
 - monitoring the success of nutritional management
4. **Epidemiology in dairy practice**
 - principles of epidemiology
 - evaluation of diagnostic tests
 - design of field studies
5. **Replacement management programs**
 - formulating culling strategies
 - calf and heifer health management
 - monitoring replacement programs
6. **Interpersonal and practice management skills**
 - time management
 - marketing services
 - communication skills
7. **Reproductive performance**
 - monitoring reproductive performance
 - rectal palpation workshop
 - economics of therapy programs
8. **Control of infectious diseases**
 - diagnosis and prevention of major diseases
 - immunology and serological monitoring
 - vaccination programs and other control strategies
9. **Quantitative Methods**
 - genetic improvement
 - macro-economics and milk marketing
 - decision analysis and partial budgets
 - quantitative epidemiology

10. Udder health management
 - monitoring udder health
 - ten-point control program
 - example herd evaluations
11. Quality assurance programs
 - residue avoidance
 - off-flavours and other quality problems
 - zoonoses
12. Environmental management
 - dairy cattle behaviour
 - ventilation and housing design
 - lameness and parasitism
13. Implementation of dairy health management
 - components of dairy herd programs
 - integration of components
 - delivery of integrated services

The Dairy Health Management Certificate Program involved 35 participants (29 from Ontario, 5 from Quebec and 1 from New Brunswick). Each workshop was reviewed for structure, content and delivery of the material. In addition, the overall program has been reviewed in detail by the participants and the advisors. These assessments were used to adjust the program as it proceeded, as well as for making major revisions to subsequent versions of the program. In addition to providing the participants with new knowledge and skills, the friendship and openness that developed amongst the participants resulted in an additional dimension of learning from one another, that had not been fully anticipated. The assignments were an important component, and were particularly well done. It is believed that the implementation of new health management strategies will extend the impact of this program deep into the dairy industry in Ontario.

A major reason for the success of the program was the guidance and motivation provided by Dr. Jim Stowe, Coordinator of Veterinary Continuing Education. Intensive modular programs have also been developed in other aspects of veterinary medicine, including the Companion Animal and Veterinary Dentistry Certificate Series. The OVC Dairy Health Management Certificate is scheduled to commence its second program in October, 1992. It will incorporate the comments and suggestions of the advisors, participants and instructors from the first program.

Other universities have followed the development of this continuing education effort, and have made plans to conduct their own programs. A similar program has commenced in Pennsylvania, conducted jointly by the University of Pennsylvania and Pennsylvania State University. It consists of nine three-day modular workshops, scheduled over a three year period and emphasizes the same subject areas as the OVC program. The Pennsylvania Dairy Production Medicine Certificate Program is currently at the mid-point of its curriculum. Other schools that are investigating the development of dairy production medicine certificate programs are Michigan State University, University of Minnesota, and University of Wisconsin.

Commensurate with the increased interest in comprehensive continuing education programs for dairy practitioners, the American Board of Veterinary Practitioners (ABVP) has undergone a re-organization of its recognized specialty disciplines. As of early 1991, an Organizing Committee chaired by Dr. John Fetrow, of the University of Minnesota, has been charged with the responsibility of developing the guidelines for a Dairy Board Specialty Group. This mandate involves establishing the necessary credentials criteria and the certification process. The examinations will consist of core, specialty and practical components, which is consistent with the format established by the ABVP. Each of these three components will have questions related to the applied sciences (anatomy, immunology, physiology, etc.), clinical examination and diagnostic methods, medical principles, surgical procedures and applied health management disciplines. In other words, this examination process will ensure that persons achieving Dairy Board Specialty status will have sound knowledge and

understanding in both the individual animal and health management fields. The development of the ABVP Dairy Boards supports the concept that specialization along species and production lines is a desirable progression for veterinary practitioners. In dairy cattle practice, the opportunity to participate in advanced training programs, and to be recognized with specialist credentials is now available. The veterinary profession has the opportunity to develop new skills and to obtain the knowledge necessary to help the dairy industry be competitive and efficient.

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