Introduction

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Veterinarians in mixed or large animal practice have additional computer needs as they relate to herd health records and ration analysis. One of the early computer systems available to Canadian veterinarians was from Animal Nutrition Inc., Belleville, Illinois. This started as a bureau service which analyzed the results of metabolic diseases, production records, and feed analysis to give a print-out of a recommended ration for each farm herd. The result was usually a marked increase in production with a decrease in metabolic problems. A qualified animal nutritionist also visited the herds with the local veterinarian, on an annual basis, to assess progress of the ration program.

There are now several local sources of ration analysis programs that can be used either by the farmer or the veterinarian. The farm community has a wealth of software programs that can be used for farm and herd management without the assistance of their veterinarian. For example:

1. *Homestead Computer Services Ltd*, Winnipeg, Manitoba
   Homestead Farm Management System
   This includes an accounting package, crop record keeping system and records for either a feedlot or hog enterprise which monitor and produce least-cost rations, nutrient requirements, pen and lot records, profit projection, genetic improvements, performance records, cost of production.
2. *Alfa-Laval Agri*, Peterborough, Ontario and St. Laurent, Quebec
   Herdmaster Management System
   This is a farm oriented system that has seven components that can be used by the farmer:
   Herd Program — status reporting on health and reproduction including pregnancy, dry cows, feed levels, calving dates, health checks and estrus detection.
   Ration Program — least-cost rations based on NRC statistics comprising over 70 feedstuffs.
   Heifer Program — vaccination scheduling, feed levels, estrus and pregnancy checking.
   Reproduction Program — tied to sires so that cows can be mated towards genetic improvements giving conception rates and records of daughters.
   Milk Program — data are sent to the farmer's computer directly from milk meters in the milking parlor. Then the proper ration is formulated according to production. Milk, fat, and protein are monitored as well as classification of the herd-by-weight, lactations, production.
   Feed Program — feed consumption patterns of individuals or groups of cattle on a daily or period basis. Any animal that deviates from the norm is flagged to the farmer.
   History Program — this includes health problems as well as production, reproduction, expenses and profit of each cow and herd.

There are several software programs which are classed as "Herd Health Programs" that can be used by veterinarians and/or farmers. Some of them include:

1. Dr. Wayne Etherington et al. (1) have studied such a program called the *Dairy Herd Management System* written by Scott Taylor and associates to try to assess the efficiency of using an on-farm system augmented by a bureau analysis, which could conceivably be the local veterinary practice. Estrus, breedings, freshenings, culling, reproductive checks, health and disease events are entered. Resulting analyses of individual cow and heifer breeding and performance proved worthwhile. Currently, the program is owned by Control Data Corp who market it under the name *Dairy Track*. It is relatively easy to use but there is no way yet to link data input to an automated parlor or feeding system. Dr. Michel Bigras-Poulin is working on a similar system for the Faculté de médecine vétérinaire (St-Hyacinthe, Québec).
2. *Dairy Comp 305* by Valley Agricultural Software, Tulare, California. This is similar to Dairy Track in that it can be used by the dairyman and/or the veterinarian. It has DHIA compatibility in the US with several herd health analyses — breeding, somatic cell counts, production, etc.
3. *Dairy Herd Management Program*, Merced, California
   The farm manager and veterinarian can maintain data input and get several printouts that provide production, health and reproductions analysis including a veterinary check list, conception rates, and breeding work lists.
4. *Pig Champs*. Developed by the University of Minnesota that provides computer analysis of swine production and reproduction that has approximately 150 users in Canada — both producers and veterinarians.
5. *Western College of Veterinary Medicine*, Saskatoon, Saskatchewan. A grant from the Max Bell Foundation has helped to fund the work done by their Animal Health Data Lab which has subsequently produced three programs:

a) *WCVM Feedlot* — currently a popular program with Alberta producers, this is a program with primary veterinary thrust that allows input of data on treatments, diseases, relapses, etc., by the farm manager that can then help the veterinarian determine trends that will lead to early detection and earlier preventive care.
b) *Prairie Dairy* — the name reflects its origin, not its application, as it is used now by a couple of dozen practices for data-crunching on dairy herd health clients, from British Columbia, Alberta, Saskatchewan, to the Atlantic Veterinary College. Its major components are reproduction, disease and treatments — production parameters are not included since dairymen get this information from DHIA computer records. A veterinarian can print an update on a scheduled herd just before the regular herd health visit.
c) *SUIS* — Swine User Information Service has been developed primarily for the college's own 250-sow swine unit but has not been promoted commercially since Pig Champ and Pig Tails are already successful commercial programs.

WCVM Feedlot and Prairie Dairy are supported and enhanced by WCVM and inquiries can be referred to the Animal Health Data Lab.

The problem with computer software available to the farm service sector of veterinary practice is that there is not clear delineation of practical usage. A farm manager could run much of the software currently available on his own computer system and use veterinary input as his computer advises — many farmers do this now. Commercial packages are often developed with this in mind since the farm market is greater than the veterinary market. Veterinary herd health programs often have requirements for data input that only the farmer can provide, so accurate use of the program is difficult unless there is a close ongoing working relationship between veterinarian and farmer.

Veterinarians should demand a veterinary-oriented herd health system but realize that the total veterinary market is not likely going to support more than three or four practice management software companies in North America. Since only about 30% of the veterinary market is large animal practice, there will not likely be a great rush to develop such a system.

If you are a large animal practitioner and decide to computerize your practice, compare herd health and ration analysis software very carefully. You will compete with vendors to the farmers with the same service. The cost of herd health and ration programs can run into more than $5,000 which makes it impractical unless you have a large clientele to support your own system.

References

1. Etherington WG, Menzies PA, Lissemore KD, Meek AH. The Dairy Herd Management System, Application to Dairy Herd Reproductive Management as a Bureau and On-Farm System. Vet Clin N Am: Food Anim Pract; 1987; 3: 545-551.

Animal Productivity and Health Information Network

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Introduction

The adoption of a health management approach to the delivery of veterinary services to livestock industries is dependent on information concerning the health and productivity of the herds being available. The requirement of storing and summarizing data generated and recorded on individual farms has been met to a large part by the use of microcomputer-based herd health programs operating on the farm or in veterinary clinics. Sophisticated programs which perform detailed analyses of the health and productivity of the farm are now available. While the first programs developed to perform these analyses were run on centralized "mainframe" computers (1,2), many now run on easily affordable microcomputers. One limitation to this approach is that these programs lack the ability to make comparisons between farms or to easily amalgamate data from various sources or geographic regions. FAHRMX (3) is one computer-based system which links microcomputer-based programs to a central mainframe computer in order to permit the comparison of one farm's data to that from other farms in the region.

In addition to records kept by individual producers, there are many sources of health and productivity data which are likely to be useful to producers and veterinarians adopting a health management approach to livestock management. These include production testing programs (e.g. Dairy Herd Improvement organizations, Record of Performance programs), the inspection of market weight and culled animals at abattoirs, veterinary diagnostic laboratories, other agricultural laboratories (e.g. nutrition and dairy laboratories), veterinary teaching hospitals and government regulatory programs. In some locations, specific programs have been put in place to capture and utilize data from one or more of these other sources. The Danish Pig Health Program (4) is a notable example of the use of abattoir generated data to assist in the management of swine. However, data from these

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