

Computerized
Treatment Records
For Disease Control
And Residue
Avoidance

L. D. Weaver, V.M.D.

University of California, Davis
School of Veterinary Medicine
Veterinary Medicine Teaching
and Research Center
Tulare, California

1993
WESTERN LARGE HERD
MANAGEMENT CONFERENCE
♥
LAS VEGAS NEVADA

Computerized Treatment Records For Disease Control And Residue Avoidance

L. D. Weaver, V.M.D.

University of California, Davis

School of Veterinary Medicine

Veterinary Medicine Teaching and Research Center

Tulare, California

Dairymen and veterinarians have long recognized the value of production and breeding records. These records are maintained accurately because the information is routinely used by owners, employees and consultants for making cow and herd decisions. Computerization of these records has greatly increased their usefulness in large herds. Detailed medical records of treatments administered to cows and calves are less commonly maintained. Typically, dairy medical record systems include temporary records such as cow markings, a blackboard, daily treatment logs or a pocket notebook. Some managers also record the disease on the cow page of the herd record system. Information is often limited to disease, drug administered and first or last date treated. Doses, routes of administration, repeated treatments and withholding times are less commonly recorded. More detailed medical records are often not maintained because they are perceived as time consuming and unnecessary to dairy management.

Many owners and managers have delegated drug selection and treatment decisions to animal caretakers. Animal caretakers frequently have little supervision and may alter drugs and doses used based upon impressions of treatment responses in individual animals. These practices ignore the value of using consistent, medically correct criteria for disease diagnosis and basic principles of drug use. Because consumer groups are aware of these common animal care practices, they have pressured regulatory agencies to encourage more responsible use of drugs in livestock production. Producers, veterinarians and government agencies all recognize that responsible use of drugs in dairy animals is impossible unless the identity of treated animals is assured through careful maintenance of treatment records. Treatment records are also required by federal regulations whenever prescription or extralabel drug use occurs and when residues are investigated. Records are also a key element of the National Dairy Meat and Milk Quality Assurance Program. For each prescription and extralabel treatment given a food animal, the animal identification, treatment date, disease, drug, dose and route of administration should be recorded.

Manual medical record systems listing individual animals treated over a period of consecutive days with several drugs, each with different withholding times, or with extra-label treatments, overdoses and other deviations from standard procedures can be very difficult to use in determining proper withholding periods. Errors can easily be introduced when counting hours and days following the last treatment. Herd management software often permits entry of treatment information, but rarely provides much more than "read only" output, i.e., they do not assist the user in managing treatment and residue avoidance programs. Software that guides continuing treatments, assists in determining and observing withholding periods

and that makes record-keeping easier would also likely result in fewer errors and provide a more easily used database than paper records.

Computerized treatment records developed by the University of California Veterinary Medicine Teaching and Research Center can be used for health management in addition to fulfilling regulatory requirements. They can assist the producer in making treatment and culling decisions, calculate disease and mortality rates and assist in determining effectiveness of disease prevention programs, treatments and culling strategies. Dairymen who have recently changed or eliminated some treatment protocols because of residue avoidance concerns can easily evaluate these alternative strategies with this record system. They have also been used to document vendor invoicing errors, drug theft, diligence of animal caretakers, animal treatment costs and drug savings from revised treatment protocols.

While use of prescription and ELUD treatments is often unavoidable in dairy animals, current federal regulations require that such drug use be guided by the herd veterinarian. The residue avoidance software guides treatment personnel using veterinary designed protocols unique to each herd and updated to reflect changing herd conditions. This fulfills, in part, the requirements of a veterinarian-client-patient relationship. On-farm treatment personnel recognize common signs of illness, and choose the treatment selection stored in the computer that matches the observations. Upon selection of an appropriate presentation of signs, the computer prints instructions for treatment including drug, route and dose for that animal based upon body weight or other defined criteria (Table 1). The record system accommodates individualized treatments for animals with specific signs not preprogrammed into the software. These treatments can be selected using individual drugs according to label directions. At the end of a prescribed course of treatment the program prompts the caretaker to discontinue treatment. Animals that have not recovered can be placed on treatments programmed by the herd veterinarian for such cases, or seek veterinary assistance.

The herd veterinarian sets meat and milk withholding times in advance for each treatment regimen. The program monitors therapy actually administered to each animal, automatically updating meat and milk withholding times with each treatment (Table 2). Users can query the database about any animal or group of animals to determine their eligibility for sale or return to a milking string (Table 3).

This medical record and treatment software meets several needs. The producer has data to objectively judge the merits of various aspects of dairy health programs. The veterinarian can better advise his client. Installation of such a program fulfills the record keeping requirements of federal regulations and the Milk and Dairy Beef Quality Assurance Program. Producers and marketing organizations concerned with food safety and consumer concerns are provided a tool to document responsible management by dairymen and veterinarians. It is possible that more professionally designed treatment programs and careful documentation of treatment practices will improve animal health and welfare, consumer confidence and food safety.

Minimum system requirements to operate the software in large herds are an IBM-compatible, 286 or better processor with 640K memory and a hard disk. The software is available and supported through the National Dairy Meat and Milk Quality Assurance Program distribution agency — Agri-Education, Inc., 801 Shakespeare Avenue, Stratford, Iowa, 50249.

TABLE 1
Milky Way Dairy
AM To Do List for HUTCH Pens on Wednesday, April 22, 1992

Drug Administrations:										
Pen	Cow ID	Date	Disease	Drug	Dose	Units	Route	Mod	Cln	Tech
HUTCH	407B	04/22/92AM	PNEU	NAX	3	CC	IM	N	CV	
HUTCH	424B	04/22/92AM	PNEU	NAX	3	CC	IM	N	CV	
HUTCH	4501C	04/22/92AM	PNEU	NAX	2	CC	IM	N	TR	

Decisions:						
Pen	Cow ID	Date	Disease	Decision		Tech
HUTCH	412B	04/22/92AM	PNEU	REPEAT TREATMENT? [YES/NO]		
HUTCH	415B	04/22/92AM	PNEU	REPEAT TREATMENT? [YES/NO]		

Withdrawal Completed:			
Pen	Cow ID	Date	Tech
HUTCH	412B	04/22/92AM	
HUTCH	415B	04/22/92AM	
HUTCH	4399C	04/22/92AM	
HUTCH	4430C	04/22/92AM	

TABLE 2
Milky Way Dairy
Medical History Report (Report Date: 04/21/92)

		Withholding Dates						
Cow ID: 1408B	Weight: 300 lbs	Milk: 12/16/91PM	Meat: 12/28/91AM					
Dispose:		Remarks:						
Hospital Visits								
Admitted	Released	Loc	Dis	Date Diag.	Tx	Milk	Meat	
10/08/91	10/17/91	HOS3	LAME	10/08/91AM	1	10/16/91AM	11/07/91AM	
12/11/91	12/17/91	HOS1	PNEU	12/11/91AM	1	12/16/91PM	12/28/91AM	
Treatments Done								
Date	Dis ID	Drug	Dose	Units	Route	Tech	Mod?	Clinician
10/08/91AM	LAME	PPG	30	CC	IM	JC	Y	TR
10/09/91AM	LAME	PPG	12	CC	IM	JC	N	TR
10/10/91AM	LAME	PPG	12	CC	IM	JC	N	TR
12/11/91AM	PNEU	ALBNI	35	CC	IV	HVK	N	TR
12/12/91AM	PNEU	ALBNI	35	CC	IV	HVK	N	TR
12/13/91AM	PNEU	ALBNI	35	CC	IV	HVK	N	TR

TABLE 3
Milky Way Dairy
Current Status Report for LHOS Pen on Tuesday, April 21, 1992

Cow ID	Treatments						Withholding	
	Completed			Continuing			Milk	Meat
	Dis ID	Date	Cln	Dis ID	Date	Cln		
2734C	MASSV	04/16/92AM	AA				04/20/92AM	04/27/92AM
2771C	PNEU	04/19/92PM	TR	PNEU	04/21/92PM	STD	04/27/92PM	05/20/92PM
2795C	MASSV	04/20/92AM	TR	MASSV	04/21/92AM	STD	04/25/92PM	04/26/92AM
2801C	MASSV	04/20/92AM	AA	ALBNB	04/21/92AM	STD	05/04/92AM	05/04/92AM
2856C	DRY	04/06/92AM	TR				06/05/92AM	06/05/92AM
2882C	OB	04/19/92PM	TR				04/22/92PM	05/17/92PM

1993 WESTERN LARGE HERD MANAGEMENT CONFERENCE
NOTES