



Western Dairy News

November 2008
Vol. 8, No. 9

for the West, about the West, from the West

Establishing a health data management plan will help keep more cows in the herd

By John Wenz, DVM, MS
and Dale A. Moore, DVM, MPVM,
PhD, Dipl. ACVPM
Veterinary Medicine Extension,
Washington State University

Many cows leave the herd as an unintended consequence of health problems. Unfortunately, many dairies lack good health records that allow careful monitoring and measurement of disease prevention and management effectiveness.

For example, when a new mastitis treatment becomes available, how do you determine if it works better than your current therapy? Many dairy businesses do so by using a case or two of the new product and asking the hospital pen manager if they thought it was effective. Although knowledgeable, experienced people, these folks may be biased by the last catastrophic treatment failure or the last miraculous cure.

Sound management decisions are best made by asking the cows through "good herd health records". However, even in the case of good records being kept, such as for lameness events, it is common to find that they aren't being used to make sound management decisions. Many dairies provide worker training sessions detailing protocols and explaining why they are important. Yet months later, "protocol drift" has set in and what is being done routinely doesn't match the intended protocol, perhaps compromising cow health and productivity.

A comprehensive Health Data Management Plan can help address these problems leading to improved cow health and retention in the herd.

Why are cows leaving?

According to the recent "Dairy 2007" report (USDA, 2008) about 30 percent of the nation's dairy herd was removed in 2007. About 24 percent were sold and 6 percent died – not much different from 1996 estimates. The most common producer-reported reasons for removal were reproductive problems (26 percent), udder or mastitis problems (23 percent), poor production (not associated with the above problems, 16 percent), or lameness/injury (16 percent). Less than 6 percent of all animals were sold for dairy purposes.

Of the estimated half million dairy cattle that died, the most common producer attributed reason was euthanasia for lameness or injury (20 percent), followed by mastitis (16.5 percent) and calving problems (15.2 percent), while 15 percent died for unknown reasons. Similarly, the most common producer-identified health problems were clinical mastitis (16.5 percent), lameness (14 percent) and infertility problems indicating that removal from the herd is an extreme, typically undesirable outcome of herd health problems.

Do these numbers represent the "cost of doing business" for modern dairy operations? If so, given tighter margins with increased feed and fuel costs, as well as increased consumer concern with animal well-being, most would agree a change to the business plan is in order. Specifically, improved implementation of good management practices to reduce health problems and improve the outcome of cows that become sick is necessary.

What can we do about it?

Improved cow health through improved

implementation of best management practices is simply stated but often difficult to execute. Improving herd health data management can be an important first step allowing you to better monitor management effectiveness. Fetrow et al. (2006) stated "Relying on culling records to monitor disease has been and will always be an ineffective management strategy" and encouraged dairies to record and monitor disease to direct management efforts aimed at reducing the need to replace cows.

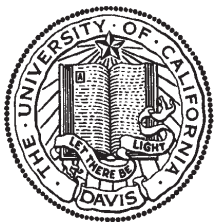
Maintenance of good health records has been long advocated (Morrow, 1963; Conklin, 1974). However, what constitutes "good" records is presumed to be common knowledge and often not specified. The following is a practical definition of "good health records"

- Good health records are achieved through a Health Data Management Plan (HDMP) that establishes the accurate and consistent recording of important health event data that provides critical information that is useful for making sound management decisions.

It has been our experience that good health records are lacking on many dairy operations in contrast with reproduction, production and milk quality records. This discrepancy in records quality is due, in part, to a lack of standardization of health event recording, which exists for the other three types of records kept.

The lack of standards makes evaluation and decision-making more difficult resulting in a lack of promotion of the idea by dairy industry professionals, most notably veterinarians. Consequently, dairy producers perceive health records as less important to the routine management of the

Western Dairy News is a collaborative effort of Dairy Specialists from:



Utah State
UNIVERSITY
EXTENSION



Colorado
State
University

Knowledge to Go Places



Extension Service



dairy. Past success, in the absence of a specific HDMP suggests it was not as important. In the past, crude measures of herd health (the number of cows in hospital pen for example) may have been adequate to determine if a problem existed or if a management plan was effective. However, given current circumstances, a more precise measure of herd health afforded by establishing a HDMP may be necessary to ensure cow well-being, retain more cows and improve profitability.

How do we establish a HDMP to achieve good health records?

Having a HDMP laid out from the start is the ideal situation, but often not practical unless your herd is going through a large expansion and moving to new facilities or you are changing your herd record system or dairy management software. For most, however, the logical starting point is with current health problem areas. Not surprisingly, the most common reasons cows leave the herd are similar to the common health problems encountered on farm.

The most common producer identified health problems in the Dairy 2007 study were clinical mastitis (16.5 percent), lameness (14 percent) and infertility problems (12.9 percent) (USDA, 2008). Assuming the situation is similar on your dairy, clinical mastitis, lameness and metritis would be good candidates with which to start building a HDMP.

Step 1: The dairy management team should establish what critical information is needed to make sound health management. Consider the questions you want to ask the cows as this will dictate what data needs to be collected when a health event occurs. Examples of disease specific questions and the needed data to answer them to make sound management decisions are shown in Table 1.

Step 2: Determine how the needed data will be collected. Much of the data may already be captured on the day sheets and hospital treatment sheets already in use. It is important to establish who is responsible for collecting the data, when and how it will be collected. This information should be incorporated into worker training and the protocols used on the dairy. Monitoring the recording of data is a method of monitoring employee job performance and is a part of protocol drift prevention.

Step 3: Determine how the captured data will be entered into the dairy management software. Like all other processes on the dairy, data entry should be clearly described in a standard operating procedure (SOP). Abbreviations are often used and should be defined so the health record is accurate and consistent.

Step 4: Determine when, how and by whom the recorded data will be evaluated to produce the critical information needed to make sound management decisions. Once health event data entry and evaluation is standardized it can be done efficiently on a routine basis much the way reproductive data is currently used to easily determine pregnancy and conception rates. Even if the herd is not experiencing a

Table 1: Examples of disease specific questions and the data that needs to be recorded to answer them.

Important question	Critical information	Needed data
Is the first-line mastitis treatment working?	<ul style="list-style-type: none"> percent of cows requiring re-treatment percent of cows that had mastitis in the same quarter within 60 days percent of cows that lost the quarter 	<ul style="list-style-type: none"> separate "health events" to record mastitis episode and re-treatment of a mastitis episode event to record loss of a quarter all "events" should include: <ul style="list-style-type: none"> quarter antibiotic treatment culture results (if available)
What factors contribute to metritis in the herd?	<ul style="list-style-type: none"> percent cows with metritis of those that freshened in a month (1st vs. 2nd lactation cows) number of cows with and without retained fetal membranes that had metritis percent of cows with metritis by calving ease score percent of cows with metritis by employee who assisted with calving 	<ul style="list-style-type: none"> event to record metritis and retained fetal membranes <ul style="list-style-type: none"> events should at least indicate treatments given calving ease score employee-assisted calving

Table 2: Recorded reasons for cow deaths on the same dairy.

Problem	recorded reasons	problem	recorded reasons
Hemorrhagic bowel syndrome, or "bloody gut"	HBS BLDGUT BLUDGUT BLDYGT	down cow syndrome	DOWN DOWNER DOWN??? DWN

'health problem' it is still important to evaluate the recorded data on a routine basis. At the very least, it can be used to provide feedback to employees, preventing protocol drift by letting them know that monitoring is being done and that you are paying attention. Frequency of evaluation depends on what is being monitored and how the information is being used. For data that is slow to accumulate or change, twice a year may be adequate while data that accumulates rapidly and changes quickly weekly may be necessary.

Step 5: Routinely use the evaluations to

provide feedback to those for which it is important. Again the frequency of evaluation and provision of feedback varies depending on the situation.

Data capture, recording, evaluation and feedback often starts in response to a health problem only to fall into disuse after the problem has resolved. This is like turning off the meters in the parlor when the cows are producing well or to stop recording pregnancies and evaluating pregnancy rates when conception rates are excellent. With a HDMP continually in place the dairy is able to identify a problem earlier and respond more quickly. This does require a dedication of time and resources, but should provide a benefit that justifies the expense. The cost: benefit of the components of the HDMP should be part of the evaluation process.

Continuous implementation of a HDMP will likely require employees to spend more time recording and entering data. Often we have found that establishing the HDMP results in a streamlining of the process such that there is a net time savings for those involved. You can make more time available by critically evaluating the data currently being recorded on the dairy. If that data doesn't provide critical information useful for making sound management decisions, perhaps it doesn't need to be recorded.

A classic example is the recording of reasons cows were sold or died. We evaluated

Western Dairy News is published as a service to people interested in the health and welfare of the Western dairy industry. Archives of this publication may be found at:

<http://animalscience-extension.tamu.edu/dairy/wdn.html>

For further information contact:

Dr. Ragan Adams, Editor
ILM, CSU-VTH
300 W. Drake Road
Fort Collins, CO 80523
970-297-0371
radams@lamar.colostate.edu

Material published in **Western Dairy News** is not subject to copyright. Permission is therefore granted to reproduce articles, although acknowledgement of the source is requested.

Cooperative Extension programs are available to all without discrimination.

the herd health records of 15 Washington State dairies (800 to 4,000 cows) and found that all of them recorded a reason for death for approximately 75 percent of cow deaths on the dairy while about 25 percent had no reason recorded. Few of the dairies, however, actually summarized and evaluated the 'reasons for death' data.

When about half of these producers were asked why they were recording reasons, none had an answer, though one suggested 'because we felt bad'. As indicated earlier, recording and evaluation of health events will be more useful than monitoring the reasons why cows leave the dairy. However, since many dairies are recording reasons cow are sold or died, such data can provide useful information about problems in health management of cows and shouldn't be ignored. However, the quality and consistency of that data needs to be improved in many cases.

Recording meaningful data is important

Further examination of the recorded reasons for cow deaths in our sampled dairies indicated that the reasons were inconsistent and often didn't contain the critical information needed for sound management decisions. The same was true of health events, if they were recorded.

Table 2 shows the lack of consistency of reasons for cow deaths which can result in incorrect estimates of the reasons cows died. For example, if you asked the question "How many cows died of hemorrhagic bowel disease or 'bloody gut'" and asked the computer for all cows that died with a remark 'HBS' none of the cows with variations on 'BLDYGUT' would be included. If cows with "down cow syndrome" were recorded as DOWN this not be specific enough to provide the critical information needed to address the potential problem and direct management intervention because cows may go down due to metabolic, infectious or lameness/injury, all of which require a different management intervention.

In contrast, recording MASTDWN for cows down due to severe mastitis and INJDWN for cows down due to injury and CALFDWN for down due to calving provides critical information and directs further investigation of the problem more efficiently.

Perhaps the least useful recorded reason for death that was observed was SHOT. It is, in fact, the reason why the cow died and does indicate that management elected to euthanize the cow. However, given this information all we can offer as a management intervention to prevent further deaths is to take away the gun or the bullets. What we really need to know is what prompted the euthanasia of the cow, realizing that there are many potential reasons.

Knowing that euthanasia was elected is critical and can be indicated with remarks such as MASTEU for cows with severe mastitis that were euthanized and INJEU for cows with an injury that were euthanized. Following these specific recommendations are not as critical as establishing any standardized method of recording data on the farm. However, an industry-wide standard would be most useful as it would allow easier comparison among dairies.

An example of recommendations for recording lameness in Dairy Comp 305 can be found on the University of Wisconsin School of Veterinary Medicine website

<http://www.vetmed.wisc.edu/dms/fapm/toc.htm>. In the 'DC305 Guides' section at the end of the 'Clinical Info & Forms' heading you will find a pdf document (fapmtools/dc_guides/guide_to_lameness_recording.pdf) that you can download and view.

Care needs to be taken when assigning reasons why cows are sold or died and many times it is not easy to assign a single reason. The classic example is a cow that had a dystocia, got mastitis and had a displaced abomasum. The final straw that resulted in her being removed may have been the DA. However, if she didn't suffer from mastitis her production could have been sufficient to warrant surgery. Nonetheless, if carefully interpreted, useful information can be obtained from herd removal reasons, realizing that health records provide better information for making sound management decisions and her contribution to the number of mastitis cases and DAs for the month will capture all the information that led to her removal.

We have created an Excel spreadsheet that can be used to summarize the removal reasons obtained from Dairy Comp 305 for your herd that you may find useful. If you would like a copy of the spreadsheet send an email to jrwenz@vetmed.wsu.edu. While recording and evaluation of health events is a better tool for making sound management decisions that will retain more cows in the herd, cautious interpretation of herd removal data may help identify where to start in developing your Health Data Management Plan.