

Is your Worker Training Effective? Ask the Cows and Reduce Protocol Drift

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Abstract

Significant increases in herd size in the dairy industry have resulted in hired labor providing primary care and management of the cows guided by protocols. Worker training programs have been instituted to provide workers with an understanding of the hows and whys of the protocols they are asked to follow. The ultimate goal of training is to have competent workers carrying out best management practices on the dairy in a manner that promotes the health, well-being and productivity of cows in the herd. This paper describes evaluation of worker training effectiveness that includes assessment of knowledge and skill acquisition, reduction of protocol drift and monitoring of worker behavior and animal health and productivity. Veterinary practitioners have a great opportunity to facilitate worker training sessions and monitoring to provide a complete, effective worker training program to the dairies they serve.

Résumé

Avec l'augmentation significative de la taille des troupeaux laitiers, on a élaboré des protocoles pour guider la main-d'œuvre dans l'administration des soins et de la régie de base des animaux. Également, des programmes de formation ont été mis en place pour aider les employés des fermes laitières à comprendre le pourquoi et le comment des protocoles qu'on leur demande de suivre. Le but ultime de ces formations est de faire acquérir aux employés des notions de bonnes pratiques de régie qui garantissent la santé, le bien-être et la productivité des vaches du troupeau. Dans cet article, nous décrivons comment évaluer la formation des employés en vérifiant si les employés ont bien acquis les connaissances et les compétences enseignées, si on a réussi à prévenir la « dérive » du protocole et en faisant le suivi du comportement des employés, et de la santé et de la productivité des animaux. Les médecins vétérinaires ont une belle occasion de faciliter les sessions de formation données dans la ferme laitière où ils pratiquent, d'en faire le suivi ou même de faire office d'animateur, dans le but de rendre cette formation encore plus complète et plus efficace.

Introduction

Significant increases in dairy herd size have resulted in the need for hired labor to provide primary care and management to the cows. A large proportion of this hired labor force has limited-to-no previous livestock experience, yet the jobs they perform are critical to the health, well-being and productivity of the cows and the success of the dairy operation. This situation has created a need for dairy worker training and education to provide employees guidance as to how they should perform their jobs and why it is important they do their jobs according to established protocols. Veterinarians are well positioned to take the lead in providing working training programs to their client herds. Measuring the effectiveness of worker training is equally important, and presents another opportunity for veterinarians to provide a valuable service. This paper defines effective training and discusses methods for evaluating worker performance and providing feedback using accurate and consistent herd health records. Herd health records and other novel monitoring strategies allow us to ask the cows if workers are following protocol. By doing so, workers continue to perform their job as they were trained to do, and protocol drift is reduced.

Defining Effective Training and Evaluation of Training Effectiveness

The ultimate goal of training is to have competent workers carrying out best management practices on the dairy in a manner that promotes the health, well-being and productivity of cows in the herd. Reaching this goal requires workers to successfully acquire the knowledge and skills necessary to perform their jobs according to protocol and management to establish a program to monitor job performance directly through evaluation of employee behavior, and indirectly through evaluation of animal health and production.

Assessing acquisition of knowledge and skills

Assessing knowledge transfer to dairy workers is not as simple as giving a test at the end of class. As described elsewhere in these proceedings (Román-Muñiz *et al*), varying literacy skills and language barriers of-

ten preclude the use of written tests. Instead, asking questions in the context of the job the worker is to perform will provide a basic assessment of their knowledge of the protocols and understanding of the importance of following them.

If knowledge transfer has been successful, you will often find that employees know how they are supposed to do their jobs and why they should be done in a particular way. High turnover rate may result in employees performing poorly on verbal quizzes of how they should perform their jobs. Unfortunately, high turnover is a common problem, especially among milkers, but it is not an excuse for workers not knowing the hows and whys of their job. The worker training program needs to be modified to address high turnover on the dairy.

Many times verbal quizzing determines workers know the hows and whys of their jobs, yet they aren't following the established protocols. The majority of employees want to do their job well and, as will be discussed below, protocol failure often starts with management.

Reducing protocol drift

Consistent job performance according to protocol is a main reason worker training is implemented. However, even though workers may know and understand the significance of following protocols, they tend with time to drift toward more time-efficient protocol execution which may omit critical steps. Often, management unwittingly facilitates protocol drift by failing to provide the resources necessary to properly perform the job and/or failing to provide active and immediate feedback to workers to keep them on protocol.

Failure to provide needed resources

Time is often a limiting resource that makes it difficult to properly execute protocols. Consider the situation in which the feeders on a dairy were also responsible for monitoring the maternity pen and providing calving assistance. Although the employees knew they should monitor progress of a calving every 30 minutes, this was not achievable given their other responsibilities. Demands for high parlor throughput often have milkers pressed for time as they perform one of the most critical jobs on the dairy. Consequently, milking protocols are highly susceptible to drift.

Night employees have, perhaps, the greatest time limitations to perform jobs according to protocol. Often a single night employee is responsible for cleaning pens as cows go to milk, monitoring the maternity pen, processing newborns, addressing sick cow emergencies and more. Does a single individual really have adequate time to properly perform all those jobs? It may not be feasible to increase the number of night employees on

the dairy, however, a system should be in place for the night employee to call for backup if his or her time becomes seriously limited (eg. dealing with dystocia, multiple freshenings, or sick cow emergencies).

Many times protocol drift is the result of lacking the proper facilities or tools to properly perform a job. Calving management training emphasizes prompt attention to cows failing to progress, cleanliness and hygiene, yet facilities often make it difficult to follow protocol. If there is no convenient method of restraint near the maternity pen, employees are less likely to catch a cow for examination. Or having moved a cow a distance to examine her, the tendency will be to force delivery of the calf, although no problem was identified and the cow needed more time to properly dilate. Often, a ready supply of clean water is distant from the site where calving assistance is given, thus one bucket becomes enough even if two to three were required to maintain cleanliness when assisting a calving.

Failure to provide active, immediate feedback

Active, immediate feedback is the best way to prevent protocol drift and requires a consistent monitoring program. However, the most common feedback given to employees is no feedback which they read as, "Whatever you are doing is just fine, even if it isn't what we told you to do during training". The best way to avoid protocol drift and to get the most value out of training program efforts is to immediately tell employees how they are performing and to do so routinely.

Instituting a worker training session without a cogent plan for monitoring and feedback often results in a significant waste of time and effort. In fact, monitoring and feedback of job performance should be a part of the training session. Many times, worker training sessions are instituted in the face of a problem. As such, management often feels pressure to provide the training as soon as possible, without developing a plan for monitoring and feedback. This may actually be more detrimental than waiting until the whole package is in place. Allowing protocol drift to occur tells the workers that we (management) really don't believe following protocol is important. If workers perceive their "working version" of the protocol as equally effective compared with the "stated protocol", and management fails to prove otherwise, credibility has been lost.

Consider the situation where a herdsman, concerned about deteriorating udder health in the herd, examined a number of cows' teats as they exited the parlor and identified that 50% of teats were poorly post-dipped. He immediately pulled the milkers from the parlor to show them the poor job they had done and reiterated the importance of complete teat coverage. This outburst came four months after a milker training session, and there had been no turnover during that

time. The employees were likely confused and thought the herdsman was crazy. After all, for the past four months they were passively being told the job they were doing was acceptable. If this was the first time, the workers will likely make improvements and if routine feedback is provided thereafter, the protocol will be maintained. If, however, management continues to provide feedback in this sporadic, reactionary manner the workers will likely learn to just ignore the herdsman.

The veterinary practitioner can provide a critical service to the dairy by identifying resource deficiencies that hinder proper job performance and facilitating routine, active and immediate feedback by developing routine monitoring on the farm.

Monitoring job performance

Protocols are developed so workers know what to do when we are not there to guide them or cannot be present ourselves. Similarly, effective monitoring allows us to observe the job being performed without always being present. Worker training effectiveness is both evaluated and fostered by letting employees know that following protocol is important and we care. Direct observation of workers as they are doing their jobs is an obvious method of monitoring, but it can introduce some bias. Unless workers just don't care, they will typically work according to protocol when being observed by someone who is evaluating their performance. Cameras and video tapes in the parlor are commonly employed methods of monitoring workers; however, they are only effective if the employees know someone is viewing the tapes. Typically, we monitor outcomes that indicate a job is being performed according to protocol. As mentioned previously, there are direct measures of behavior and indirect measures, such as animal health and productivity.

Monitoring worker behavior

Monitoring worker behavior is the most accurate and direct way of determining whether protocols are being followed. Routine evaluation (weekly, bi-weekly) of post-dipping as cows leave the parlor is a direct measure of milker job performance. Use of data recording sheets (eg. day sheets and calving records) allows management to evaluate worker behavior. Useful data recording sheets ask for information that is specific to the job being performed and cannot be easily "caught up" after the fact. As an example, rather than having a check-box to indicate colostrum has been given to a calf, the time colostrum was given should be requested. Combined with information on a calving record sheet, management can evaluate the time between calving and administration of colostrum. Similarly, asking for the time a cow starts in stage two labor (actively pushing),

notation of the times progress was evaluated, along with comments indicative of progress (water bag, then two feet, then two feet and nose...) and time the calf was delivered allows management to evaluate timeliness of maternity pen observation. Furthermore, having employees record that they provided assistance to a calving or administered colostrum to a calf provides accountability and evaluation of workers as a risk factor if problems arise.

Monitoring animal health and productivity

Monitoring animal health is an indirect measure of worker performance and is often impacted by multiple workers on the farm. As such, measures of disease incidence and cure alone are not typically specific indicators of individual worker or team performance. However, accurate, consistent recording of health events (dystocia, retained fetal membranes, metritis, mastitis) allows monitoring of "prevention efficacy" and provides an overall indication of worker performance and protocol effectiveness.

Consider, for example, measures of udder health. Somatic cell count (SCC), a reflection of intramammary infections in the herd, can be caused by problems in pen/stall hygiene attributable to the "outside" crew, failures on the part of milkers, or both. Direct measures of job performance, such as post-dipping and stall cleanliness, combined with a rising bulk-tank SCC help determine who may be at fault.

The same is true of clinical mastitis. While this is not a news flash to most readers, it is uncommon that the latter two direct measures of job performance are routinely evaluated. Instead, what often happens in response to a problem (rising bulk-tank SCC) is that management runs about the dairy looking for the problem area. With this reactive approach based on changes in the output (bulk-tank SCC), quality has been lost and the cause may no longer be present. With a proactive approach, routinely monitoring the inputs (stall cleanliness, post-dipping), it is possible to make corrections preserving quality of the final product and maintaining animal health.

Effective worker training should result in employees performing their jobs according to protocol and the maintenance of, or improvement in, animal health and productivity. It is important to determine that workers know the hows and whys of their job and that management provide the necessary resources and routine, active feedback to avoid protocol drift. Veterinary practitioners have a great opportunity to facilitate worker training sessions and monitoring to provide a complete, effective worker training program to the dairies they serve.