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THE EMPLOYEE FACTOR IN QUALITY MILK¹

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Introduction

The formula for producing high quality milk is complex. Technology, equipment, facilities and management play crucial roles. Mastering most of the formula while fumbling on only one or two parts can leave dairy farm managers with serious milk quality problems. Human resource management, specifically the employee factor, is an additional key to producing high quality milk. This paper contends that employee considerations need far more management, research and education attention than traditionally given.

Employee dimensions of the milk quality problem are identified and human resource management concepts and principles applied to develop guidelines for improving milk quality.

Milk quality will be used as an inclusive term covering udder health, mastitis prevention and treatment, milking practices, and equipment maintenance and operation. Employee includes *all labor inputs* including family and non-family, full-time and part-time, paid and unpaid. Consequently, the discussion applies to any dairy farm of any size on which an owner-operator or manager has the assistance of one or more people in milking and milking related work.

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People in concert with cows, technology, and equipment determine milk quality. Managers develop plans for the production of high quality milk, efficient utilization of equipment, the prevention of mastitis and the treatment of mastitis once it is discovered. Labor, not management, carries out these plans. A straight-forward implication emerges. The production of high quality milk is accomplished through people.

Fortunately, we know much about what people should be doing to assure high quality milk. The literature describes well the science of producing high quality milk. Experience helps us understand what can and can not be applied in the dairy farm setting. We are challenged first to implement through people what is already known. A second and much more complex challenge is developing additional knowledge on which to base employee management leading to higher quality milk.

The Void

Examination of educational materials on production of quality milk is instructive. A typical slide set on quality milk might contain dozens of cow and equipment slides but few if any slides focused on the importance of the people doing the work. References to the importance of people are often made in passing, e.g., "It is important to face up to the people-related causes of mastitis." Unfortunately, the manager often tries to face up to these people causes using a vast literature on quality milk with no substantive treatment of the people-related causes of quality milk programs.

To illustrate in another way, the College of Veterinary Medicine at Cornell University has an outstanding program called Quality Milk Promotion Services (Telega). This program includes a very detailed and carefully crafted farm survey and questionnaire providing for collection of detailed data under the following headings: milking system, milking procedures, health and treatment, dairy cow management, replacements, vacuum system, controller, milk and vacuum lines, pulsations, milking unit, housing for lactating cows, bedding for lactating cows, housing for dry cows, maternity area and financial information. There are questions about how well people are doing things on the farm being surveyed, e.g., cows handled gently, units sanitized between cows. But missing are questions about whether or not people are being systematically trained to do those things necessary for high quality milk. Also missing are questions about evaluation, discipline, motivation and compensation of employees.

Examination of proceedings of the last two meetings of the National Mastitis Council provided useful testimony to the importance of people in quality milk production. Most dramatic was a predipping experience reported by James M. Tappan:

In the fall of 1984 we started predipping one of our herds with considerable success. The first two weeks produced no new infections in 1,000 milking cows, but this gradually reversed and at the end of 30 days that herd was back to approximately 12 cows in the hospital pen. Because of the negative results, we discontinued after 45 days.

Our veterinarian, Tom Furrmann was extremely perplexed. . . . To shorten the story, I will say that we started it on one of our other herds with the same initial stoppage of new infections. This time the positive results were maintained. **We now feel certain that our initial try was fouled by a milker or milkers on the night shift just not doing his job.** [Bolding added]

The following references to people speak to their importance but not to human resource management specifics. "We are not likely to eliminate all underlying problems that prevail, as human tendencies cannot be changed in all people" (Rice). "The unknown factor is the ability of the persons doing the milking." (Mellenberger) "We can no longer afford milkers to just 'milk out cows'" (Kelbert).

A notable exception is a bulletin entitled, *The Modern Way of Efficient Milking* published by The Milking Machine Manufacturers Council of the Farm and Industrial Equipment Institute. Note the first four paragraphs of this bulletin:

If your herd was asked to rate you, how high do you think you'd score? Would your cows rate you as "wonderful?" Or would they rate you as the barnyard bully, whose very presence in the lot scares the heck out of the herd?

Snicker if you want to, but the fact remains that some have it and some don't when it comes to milking.

Some are born with the knack. They can just walk into a barn, and the cows sense that this is someone who knows what it's all about. One friendly gesture and even the worst cow in the herd starts to let down milk.

On the other hand, there are some who continually end up as the wall-flower of the milking parlor. Their cows give just enough to be polite, and no more. Usually it's because they refuse to cater to cows, and this hits them where it hurts--right in the milk check.

One may quibble with the emphasis on what a dairy farmer is born with versus what can be learned. Nevertheless, the milking machine manufacturers have placed paramount importance on the people factor both by the strength of this statement and its location in the bulletin. No passing reference or afterthought here. Although the

quote by implication is directed to dairy farm owner-operators, the message applies primarily to those doing the work not the managers. The message is as applicable for employees as for employers.

Finally, from the human resource management perspective, Stephen Maddox and Luann Linquist were certainly on the right track with their 1988 articles (Maddox and Linquist).

The Challenge to Managers

Incorporation of human resource management considerations into strategies for improving the production of quality milk is the challenge. Components of a successful human resource management program to accomplish quality milk objectives might include the following:

1. The dairy farm manager has a human resource management plan.
2. Employees selected have interest in animals and have or are interested in attaining the knowledge, skills and abilities necessary for production of high quality milk.
3. Employees are trained as necessary.
4. The performance of employees is regularly evaluated and specific feedback provided.
5. Performance problems are addressed through training, supervision, evaluation, and discipline as necessary.
6. The self-motivation of employees and training, evaluation and discipline result in their being motivated to do their part in producing high quality milk.

Key Human Resource Management Activities

Human resource management is concerned with a wide range of planning, organizing, staffing, directing/leading and control problems (Milligan). This paper concentrates on only the five human resource management activities most directly related to quality milk: selection of employees, training and development of employees, evaluation of employee performance, discipline, and motivation. Human resource planning, recruitment, organization structure, job analysis, communication, and compensation are additional factors which affect performance and contribution to the accomplishment of a dairy farm's goals.

Selection

The most common means of filling positions on dairy farms are: (1) hiring a new person, (2) promoting a current employee, (3) assigning the tasks of the position to an unpaid family member, and (4) reassigning a person from another position on the farm. Hiring a new person is most common and most difficult. In each case, the decision ideally involves selection of a person from a pool of possible people rather

than taking the only person available. The person selected should have the potential for at least satisfactory performance in the position.

Luck, intuition, and guesses should play minor roles in selection. "Why don't I ever get a good one?" reflects more negatively on the person making the selection than on the people selected. Selection success depends mostly on job descriptions, recruitment, application forms, and interviewing procedures. Success requires the development of a clear description of the position to be filled. Recruitment activities should generate a sufficient pool of people from which to select. The application form used should be detailed enough to aid in selection. The interviewing procedures should be designed to separate the most desirable person from the group of less desirable people. A list of questions should be prepared regarding job-related knowledge, skills and abilities. Each interviewee should be asked the same questions.

The dairy farm employer likely faces the question of whether to hire experienced dairy farm workers or people with no dairy farm experience. A group of dairy farm employers will likely split roughly 50-50 when asked whether they prefer to hire experienced or inexperienced people. Some dairy farmers are very successful in selecting people with no previous experience. Others are very successful selecting experienced people. No general recommendation can be made. Hiring inexperienced people works best when accompanied by a careful recruiting and selection process, a well planned and executed training program and the willingness to be patient with new employees. The greater the emphasis on and need for doing it "our way," the greater the preference for hiring inexperienced people. The greater the tolerance for people who think they don't need any training because of their previous dairy experience, the less the problem with hiring experienced people.

Success in selection requires evaluation of applicants' knowledge, skills and abilities in terms of the needs of the position. Hiring only passive people, people who like the same sports team as the employer, or people who grew up on a farm with the "right" breed of cattle decreases the selection success rate.

Training

Production of high quality milk requires application of complex technology, attention to many details, and people working well together. Employees rarely just "naturally" find themselves equipped for success. Training of dairy farm employees is essential. A recent study reported that 36 percent of the full-time nonfamily employees on a sample of larger than average New York dairy farms had less than a high school diploma. Nine percent had more than a high school diploma (Maloney).

Training of dairy farm employees has two objectives: employees being able to satisfactorily do their work to the benefit of the farm, and employees having a sense of satisfaction from their work.

Training dairy farm employees deals with three major learning areas: cognitive, noncognitive and psychomotor (Myers). Cognitive learning deals with the facts,

technology and methods of producing high quality milk. The relationship between teat dipping and the incidence of mastitis is an example of cognitive learning. Noncognitive learning deals with the ability of an employee to apply science and knowledge. An example is learning to find the reasons for an increasing somatic cell count. Psychomotor learning involves acquiring the physical ability to perform tasks in which milking equipment and dairy facilities are involved. An example is learning to operate a milking machine. Another example is learning to clean a bulk tank.

A training program should be based on training needs. What does an employee need to know and be able to do given his or her role in milk production? Each training program should be responsive to the actual cognitive, noncognitive and psychomotor needs of employees. What employers feel is necessary, what employees say they are most interested in learning, what is easy to teach, or what has been traditional to learn should play a minimum part in developing a training program.

The training can be divided into orientation to the farm and job; knowledge, skills and abilities to do the current job; and preparation for future jobs and responsibilities. Two questions should be answered in developing a training program for new employees. What knowledge, skills and abilities did the employee bring to the job? What additional knowledge, skills and abilities are necessary to perform the current job?

An employee's training continues to the end of his or her employment on the farm. The continuing training program involves three questions: (1) What deficiencies were noted in individual's performance appraisal which need to be addressed through additional training? The answer to this question may, for example, lead to refresher type training, learning to use new equipment, and training in how to deal with a new problem. (2) What on-the-job instantaneous instruction is necessary in response to problems observed or situations encountered? (3) What additional responsibilities does the employee need to be prepared to handle?

Teaching follows the planning of the training program. Training is basically teaching. Learning is the desired outcome of the training.

Dairy farm training most often falls to a busy person with many responsibilities. The harried trainer likely finds it difficult to prepare adequately, to be organized in his or her teaching, to be patient with learners, and to welcome questions. Effective training programs require much trainer self-discipline. A step-by-step procedure will likely help both teacher and learner. The steps are:

1. Develop a job description for the employee which breaks the job into key parts or steps.
2. Determine the cognitive, noncognitive and psychomotor learning which each part or step requires.
3. Prepare the employee for training.