

# Monitoring the Dairy Herd

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Simply stated, successful large dairies get it done through people. Large dairy owners and managers might do well to ask themselves “do I know the results of the decisions my employees make daily?” For example, cow #100 is 85 days in milk and appears nervous. Will my herdsman identify her? Is this cow in heat? Will my herdsman breed her? Should this cow be bred in the morning or the afternoon? If the estrous mucous appears abnormal, should this cow be inseminated? Should she be treated? What will my herdsman do? How will I know?

Success is managing your employees to do it “your way”. What is the method to define “your way” and to trust your employees will do it?

## Case Studies

An 1,800 cow dairy in the Southern United States experienced a severe problem with fresh cow health for three months. Retrospective evaluation of records indicated the incidence of displaced abomasum from February to April was greater than 10%. Incidence of abomasal displacement was reduced to less than 2% in June.

A dairy in the Midwest milked 1,800 cows two times per day through a double 24 parallel parlor. For two years, their somatic cell count (SCC) remained below 250,000. In the summer of 2000, SCC rose to above 350,000 and attempts to change milking routine to improve SCC resulted in failure to get all cows milked twice in a 24 hour period. By fall of that year, 2000 could be milked twice in 20 hours and SCC is again below 250,000.

A 900 cow dairy in the upper Midwest persisted with heat detection rates of 45 to 55% according to Dairy Comp 305 record evaluation from January to June, 2000. During the second half of 2000, heat detection rates averaged greater than 65%.

Performance of these herds improved as a result of strategic management changes. The objective of this paper is to evaluate management strategies to improve productivity and profitability of dairy herds.

## What is Management?

Management is often credited or blamed for the success or failure of dairy business productivity and profitability. It is a term widely used, but with an elusive definition. Management may be defined as the control of systems and people<sup>1</sup>. Systems are the method of doing work; workers implement systems<sup>2</sup>. Managers define and

develop systems and then influence workers to implement systems properly.

To illustrate, milking routine is an example of a system. The appropriate milking routine designed for a specific parlor will produce optimum results when milkers implement each step of the routine properly. Optimum results must be defined by the manager and would probably include some measure of throughput and milk quality in the example of milking management. The manager then is responsible for defining the milking routine, coaching the employees to implement the routine and for monitoring results.

The process to manage employees includes five steps: 1. define the system or the work, 2. train or educate employees, 3. monitor results, 4. coach and discipline, 5. communicate to provide feedback.

### 1. Define the System

Work is a system<sup>2</sup>. Each system can be reduced to several steps, called processes. Each process can be further subdivided into tasks. Milking routine, the system, can be divided into several processes called milking procedures. As an example, the first milking procedure might be to prespray and forestrip each cow; the second milking procedure to wipe and attach units, and the third to post dip and move the opposite side cows out of the parlor. The first procedure, prespray and forestrip, can then be subdivided into tasks such as: 1.1 spray all four teats with the left hand, 1.2 forestrip three squirts of milk from each teat examining for abnormal milk, 1.3 respray and clean any of the four teats on which excessive dirt remains. This system, for example, can be applied to a double 25 parallel parlor with two milkers and a cow pusher as illustrated in figures 1 and 2.

### 2. Train or Educate Employees

Principles to train employees are well documented. These include: a. *prepare* the individual by describing the conditions of the work, b. *tell* the worker the steps of the work (flow charts are useful), c. *show* the worker (have him or her watch other milkers), d. have the individual *do* the work (with the lead milker), e. *summarize* the previous four points asking the individual to repeat key elements.

### 3. Monitor Results

Results are goals; these key indicators should be written out by the manager. For milking management

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these could include: bulk tank bacteria count and SCC, incidence of clinical mastitis and the number of cows milked per hour. Monitoring implies that the manager collects, analyzes, interprets and takes action on the key indicators. Comparing actual performance with the written key indicators is the basis for a manager to move to step four. Observing how workers apply the system (e.g. are milkers implementing the routine diagrammed on the flow chart?) becomes the basis for the specific form of coaching.

#### 4. Coach and Discipline

Coaches neither own nor play the game, yet they build the game plan by organizing and training or retraining players<sup>4</sup>. Coaching brings out the best in others by recognizing employees for doing the work (implementing the system) correctly. Motivated workers are the result. Or managers apply discipline through retraining. They can be candid and honest when employees stray from implementing the system. Managers can be equally vigorous to inspire and build confidence in workers found to be implementing the system correctly. Each manager intuitively applies his or her own standards or judgments to the observations and interpretation of results. The larger the “gray area” in the manager’s assessment between excellence and unacceptable, the more mediocre the results. Dairy managers certainly fail to coach or manage milkers by ignoring to correct (e.g. retrain) improper work habits or by failing to acknowledge good work.

#### 5. Communicate, Provide Feedback

The number one factor to motivate employees is feedback on results<sup>5</sup>. Communication to employees needs to be direct, specific and timely. It can be done one-on-one or in meetings. Monthly data analysis can become the agenda for efficient monthly worker meetings. For example, when is the last time you communicated with nighttime milkers?

### Strategies to Manage Change

Managing to improve implies managing change. Change occurs through one of two strategies: redesign the system of work or retrain workers to implement the existing system better. Change can be managed through a six step process. Improving milking management will be used to illustrate this process.

#### 1. Define the problem and the system deficiency contributing to the problem

A 2,000 cow dairy herd maintained bulk tank SCC’s of less than 250,000 for two years. Somatic cell count elevated rapidly to over 400,000 and clinical mastitis

elevated to greater than 5%. Environmental Streptococcus bacteria were the dominant pathogen identified in bulk tank milk.

Territorial Milking routine with two milkers and a cow pusher was used in the double 20 parallel milking parlor. Data collection indicated that prep time was inadequate compared with industry standards; this contributed to both failure to adequately clean teat skin surface as well as provide adequate stimulation for milk letdown. Prep-lag time was short and extremely variable from cow-to-cow. Milking was slow and teats were not clean.

#### 2. Formulate a plan for change

Change was proposed in two steps. An alternative milking routine was proposed (illustrated in a flow diagram) along with milker “buy in” and training.

#### 3. Develop consensus

The dairy manager, milkers and consultant met to discuss the problem and proposed changes. Milkers were asked to critique the proposed routine and their role to implement it. Why should there be change? Is the new routine better? Can it be improved? Consensus occurred as everyone agreed the changes could be beneficial.

#### 4. Redefine the new system

The new routine was depicted in a flow diagram. Differences between the old and new routines were clarified.

#### 5. Demonstrate the new system

Teaching through example can be powerful; demonstrating how and why clarifies practical implementation of a proposed system. The dairy manager and consultant milked with each shift of milkers; the new routine was implemented. Prep time, prep-lag time and teat cleanliness were re-evaluated; all improved.

#### 6. Coach to develop a new habit

Habits are consistent, unconscious patterns<sup>7</sup>. Breaking habits, such as an old milking routine, requires a conscious, consistent effort to replace a previous activity with a new activity over time. Managers coach change in milkers by observing milkers in the new routine, reinforcing the consistent positive implementation and retraining when milkers revert to old habit. Managers need to commit to three weeks of active coaching.

### Summary

Proven personnel management principles can be applied to large dairies. Dairy owners may not have had opportunities to learn these principles and advisors often fail to provide specific, practical examples applicable to dairy operations.

Large dairy owners entrust both decision-making and delegation of tasks to middle management employees such as herdsmen, head milkers and feeders. Training middle managers to manage fellow employees can improve their decision making and consistency of results. Then as dairy owners manage to improve results, change can be orchestrated through a six step process that can improve productivity and profitability.

## References

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Figure 1. Territorial Milking Routine in a double 25 parallel parlor

### MILKING ROUTINE

3 milkers:  
milker 1:

- milks cows in sections 1 and 4

milker 2:

- milks cows in sections 2 and 5

milker 3:

- moves cows into the parlor
- milks cows in section 3
- initiates post dip on opposite side of parlor

### MILKING PROCEDURES

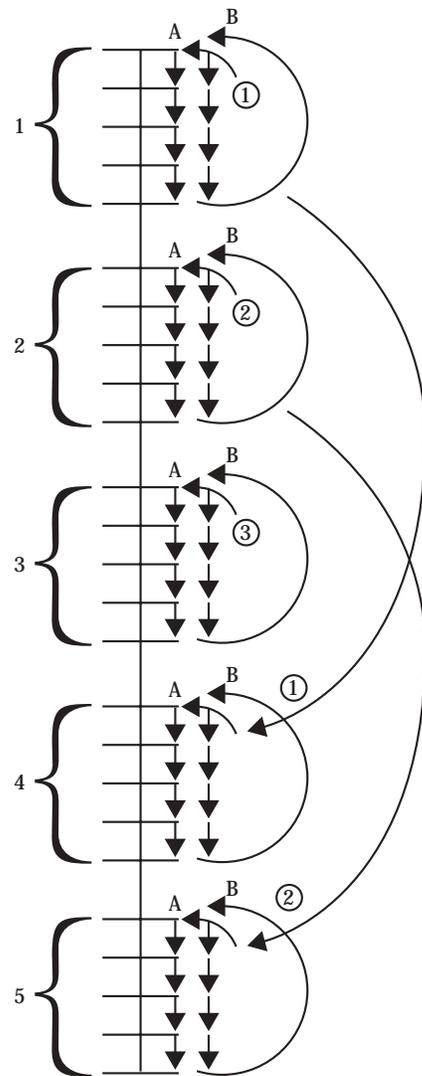
A. Predip and forestrip

- 3 squirts of milk from each teat

- repeat on each of 5 cows

B. Wipe and attach

- repeat on each of 5 cows



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Figure 2. Territorial Milking Routine in a double 25 parallel parlor

