



SCC DIAGNOSTICS TOOL BOX

QCF-9: Attitude is Key to Process Improvement

(From Chapter 3, *Herd Health 4th Edition*, J.K. Reneau and M.L. Kinsel)

Deming (23) suggested that attitude is the key component in the quest for “continuous improvement” for any process. He maintained that every process is one of four states: *Ideal State*, *Threshold State*, *Brink of Chaos*, and *State of Chaos* (Figure 1). A process in the *Ideal State* is a process “in control” and is meeting performance expectation 100% of the time. “In control” meaning that the outcome of the process is predictable and, in the case of the *Ideal State*, is meeting performance expectations all the time. The process in the *Threshold State* is also “in control” but does not meet performance expectations 100% of the time. The *Brink of Chaos* process is “out of control” because performance outcome is not always predictable but since performance standards are lower, performance expectations are still met 100% of the time. A process in a *State of Chaos* is “out of control”. The performance outcome is always unpredictable and the performance standards are not being met.

It would be rare and probably impossible to find a dairy operation with all of its processes in the *Ideal State*. It is obvious from study of herd records that the best farms will have proportionately more of the production system processes in the *Ideal State* and fewer in the *State of Chaos* than poorly managed farms. The objective of excellent herd management is to move each production system process toward the *Ideal State*. However, there are universal forces acting on every process that over time will cause deterioration, decay, wear and tear, breakdown and failure. This is called entropy. Morris et al. (16) recognized that the difficulty of maintaining mastitis control measures is almost inevitable. Turnover in employees, taking shortcuts on established protocols, wearing out of equipment and facilities, and running out of critical supplies are all examples of process entropy. Without attention, all processes will eventually migrate to a *State of Chaos*. The only way to overcome this natural phenomenon is to continually repair the effects of process entropy. Routine repair and maintenance of equipment and facilities, as well as motivation and training of employees, are examples of process entropy repair. The more proactive and consistent (i.e., “clean and accurate”) the dairy is in maintaining optimum function of each process, the more likely they will succeed in reaching and maintaining the *Ideal State*.

Frequently, veterinarians, milk plant field staff and state milk inspectors are called to a farm to respond to a process in a *State of Chaos*. The farm has a situation in which they know they are in trouble. For example, the BTSCC has just exceeded the legal limit, the farm has been issued an ultimatum to lower the BTSCC or face the consequences of losing their market. The producer is asking you to be a chaos manager. The producer’s expectation is for you to get the SCC down to legal limits as soon as possible. Using your diagnostic skills, you identify the chronically high SCC cows and may recommend culling some of those cows and to use a quarter milker on a few other high SCC quarters. The goal was achieved. With your assistance, the farm is now able to sell their milk again. The farmer is happy and feels temporarily out of trouble. However, even though the milk now conforms to the legal standards, in reality the processes that govern milk quality have not changed and are still likely “out of control”. Your intervention as a chaos manager has moved the situation from a *State of Chaos* to the *Brink of Chaos*. However, without further intervention to **change the attitude and the processes**, this herd is doomed to slip back into a “state of chaos” and the cycle of despair continues.

The greatest barrier to achieving the quality of management depicted by the process in the Ideal State is attitude. The only way to sufficiently overcome process entropy and reach the more desirable “threshold” and “ideal” states is by commitment to the concept of continuous process improvement and a continuous monitoring system that alerts the herd manager to the effects of process entropy. The causes of abnormal variation must be found and eliminated and then emphasis must be placed on process improvement. This is why it is critically important that the herd manager and the herd consultants have a shared vision of what the goals are and a firm commitment to the long-term process of continuous improvement. Not only must the goal to produce quality milk be clear, the attitude reflected in management behavior must demonstrate consistent application of quality milk management practices.

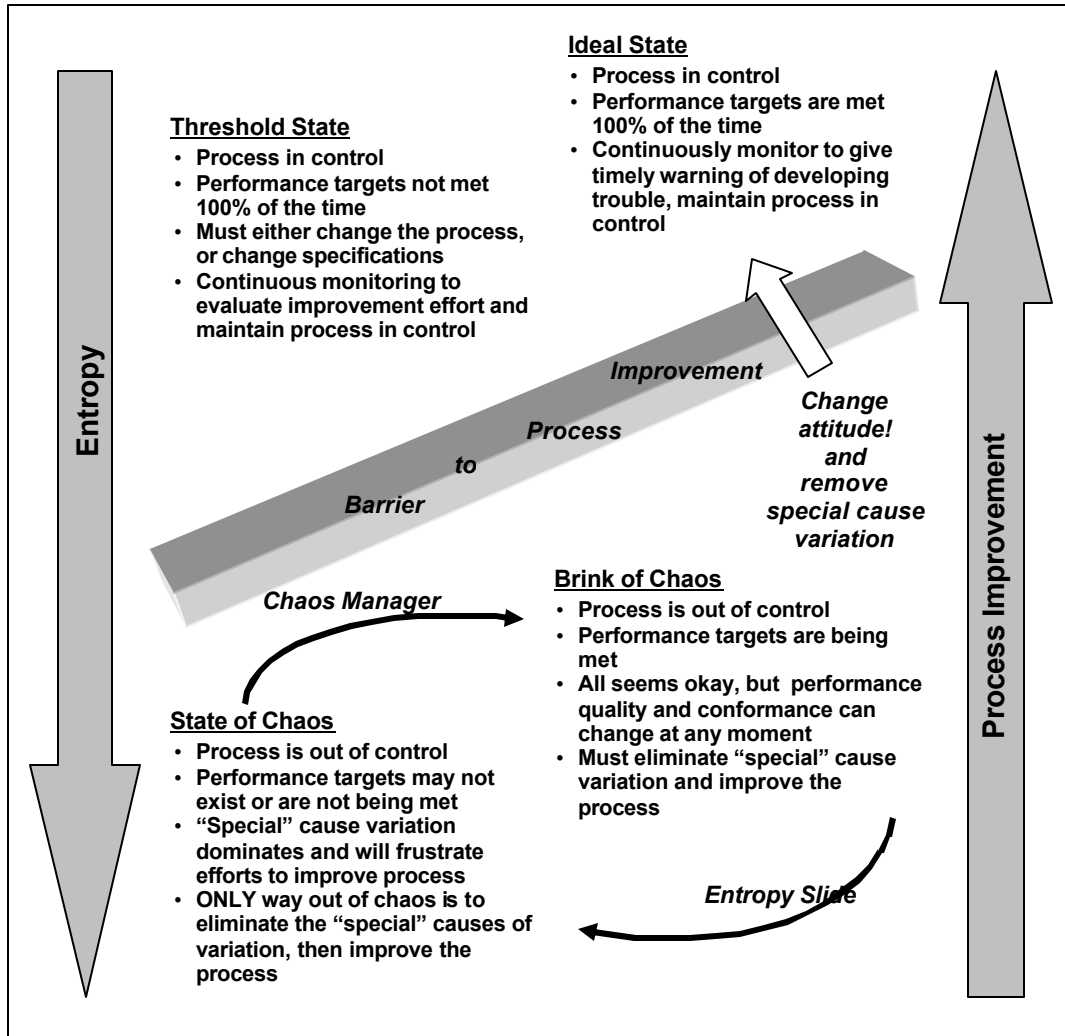


Figure 1. Process status in a dairy production system.

(Adapted from Wheeler and Chambers, 1992)

