

Achieving Excellence in Dairying

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If you want cows that product more than 100 pounds (45L) of milk a day “fill them up and lay them down.”

Many factors determine milk yield besides just rations. Non-dietary factors such as feed push-ups, feeding for a refusal rate of five percent, stall design and management and age at first calving are have a major influence.

There are three things a cow should be doing: She should stand to be milked, stand to eat and drink, and lay down. If she’s doing one of these things she’s making you money.

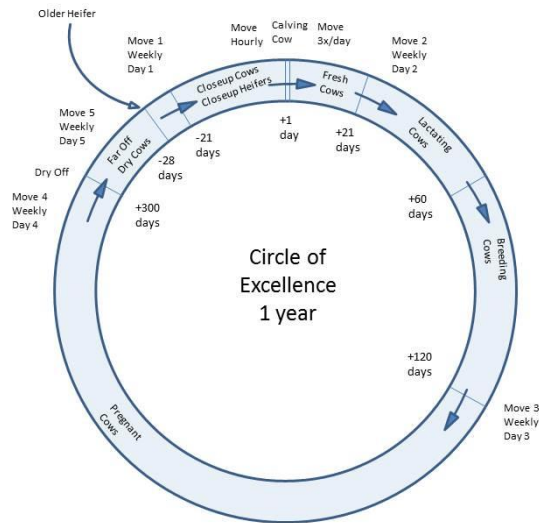
The Three Circles of Excellence

A simple thought to help dairy operations to be as efficient and profitable as possible, is to break them down into “circles.” Understanding the cycles and circles of dairy farming on any size operation can find the bottlenecks in the operation. A bottleneck is a point of congestion, the limit of constraints or blockage which keeps an operation from its highest potential.

There are three circles on every dairy farm that need to be understood for bottlenecks to become apparent.

The Daily Circle. The first cycle is the 24 hour circle, or what does a cow does during the course of a day. When planning facilities the designer should consider a cow’s daily life (Figure 1.)

- When and how often is she milked?
- How long does she spend in the holding pen and parlor?
- How long is she locked up for breeding?
- When is she fed? When does her feed arrive and how long is the manger empty?



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Figure 2. Circle of Excellence Annual Cycle of a Cow's Life

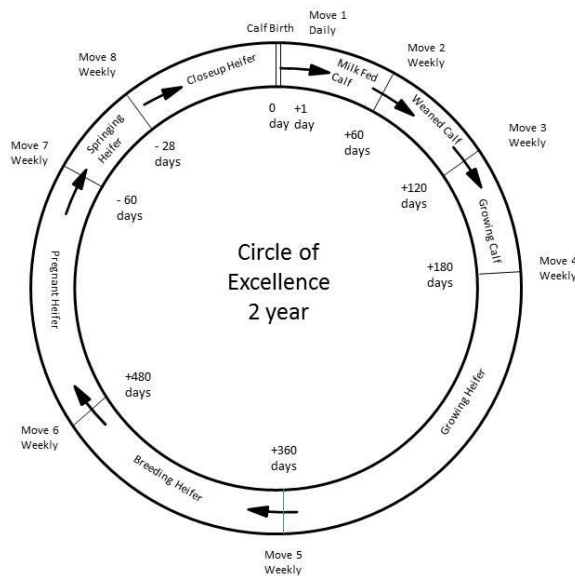
Calf to Fresh Cycle. The third circle also starts at the maternity pen and belongs to the calf. (Figure 3) Instead of looking at a year, this circle looks at the first two years of life, beginning at calving.

Questions include:

- When is she fed colostrum, how much colostrum is she fed, where is she housed and fed until weaning, how many calves are together in the weaning pens?
- What is she fed, when is grain introduced, how many heifer rations is she fed, where is he housed until breeding age? When are water, forages and fermented forages introduced?
- When is she bred, is she bred by size or age or both?
- When does she move into the close up pens, how is she handled at calving for the first time?

Think about those three circles on all sizes of dairy farms. If the circles are fully understood, bottlenecks blocking the operation's potential can be identified and corrected. Any size dairy farm can be more easily understood when analyzing the circles of excellence, and large operations may

not seem as overwhelming.



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Figure 3. Circle of Excellence 24 month Cycle of the Replacement Calf

Common problems. She should not be spending more than four hours a day away from food. The producer gets four hours a day; the cows get the other 20. The four hours away from feed also needs to include such things as sorting pens, holding pens, breeding time, hoof care, palpation rail time and other herd health.

One of the most common failures on farms is not making sure that cows have at least half of their dry matter intake when they exit from morning milking. And it is very important to feed the best feed to your best cows. Silage loses quality when exposed to the air, so the first feed mixed in the morning should go to the low production pen, then, the fresh cows can have the freshest feed that morning.

The ancestors of the modern cow were prey. Cows are designed to eat as much as they can first thing in the morning, and then moved to a safe location to lie down and chew her cud.

Another common mistake is not having enough waterers in freestalls; many freestall designs have three waterers when there really should be four. If there are more than 100 cows in a barn they typically divide into two social groups and each social group should have two waterers.

Freestall design is crucial. The main four reasons for “freestall fails” are lack of cushion, neck rail placement, lunge and bob space limitations, and lack of fresh air/ vision.

Freestall design include 48” (122cm) wide stalls, neck rail 48” (122cm) above the height of the back curb, neck rail that is 68” (172cm) from back curb to contact of neck rail, 16’ (5m) from curb to curb “nose to nose,” 68” (172cm) to brisket board, and two inches (5cm) above back curb for brisket board.

Wider stalls are often not better because cows lie diagonally in the stalls. They then defecate on the stall instead of the alley and lie in their own waste.

If the cows are lying diagonally, the set up can sometimes be corrected by putting 2x4s on the side rails to prevent the cow from putting her head through.

If a 30" (76cm) loop is used with forward lunge, width is not as important, but a 39" (100cm) loop from top to bottom, lets the cow lay diagonally and may need some modification.

Bedding must be maintained level with the curb for the curb width to be "useable." Once the bedding drops below the curb and useable bed length becomes 8 to 10" (25cm) shorter, which is unacceptable to the cow.

A person should be able to fall to their knees in the area where the cows lie down and not experience pain. If it hurts to do that then the cow needs more padding and/or bedding.

Lack of fresh air can also be an issue. Something as simple as weeds being allowed to grow tall alongside of a building can disrupt air flow.

Do not underestimate the value of standard operating procedures (SOP). Everyone should know and understand their job, and everyone should be required to pass an exam (oral or written) about their job and how to do it. When people know their jobs they will be happier at their jobs.

Dr. Gordie Jones has 15 years in dairy practice, more than 10 years working in dairy nutrition/facility/ cow comfort consulting. He spent six year designing and managing Fair Oaks Dairy (20,000 cows) and five years ago he built and began managing his own dairy farm in Wisconsin, Central Sands Dairy.

Notes: