

Comfortable cows equal more production, better reproduction and lower cull rates

Cow comfort pays off

Maximizing cow comfort means more milk production per cow and ultimately more profitable cows. There are various ways to optimize cow comfort and each comes with a cost. In this article, two cow comfort specialists discuss strategies and how their benefits outweigh the costs.

by Amy Ryan

Dr. Nigel Cook is Professor in Food Animal Production Medicine from the University of Wisconsin-Madison School of Veterinary Medicine. He is also one of the pioneers behind the Dairyland Initiative, a program developed to create an optimal environment for dairy cattle care and well-being. Cook and other collaborators offer seminars, hands on training and web resources to optimize cow comfort.

“Cow comfort can be broken into several areas: resting time, heat abatement, feed access, water access and injury prevention,” says Cook. “While they are all important, resting time is a key area to consider and it can be impacted by heat stress, poor stall installation, overstocking and time out of pen for milking.”

Although resting time is not typically measured, activity monitoring devices can assist with pinpointing problems. To increase cow resting time, Cook advises dairymen to use deep, loose bedded stalls and cool cows in the warm summer months. The improvement in resting time from these tactics has shown less lameness, improved milk

production and lower culling rates.

More milk per lactation

Jack Rodenburg is another cow comfort expert who spent 34 years as a dairy extension specialist advising dairy producers on housing and production systems for the Ontario Ministry of Agriculture. After retirement, he became an independent dairy housing consultant with DairyLogix in Ontario and serves as a CowSignals trainer. CowSignals assists producers in analyzing cow behavior to assess their comfort and well-being.

“To be healthy and productive, cows need unrestricted access to feed, water, light, air, rest and space. When any of these needs is unfulfilled or restricted, cow comfort and well-being will suffer,” Rodenburg states. “What we strive to do with the CowSignals concept is use our observation skills to identify the weak links and areas where dairymen can get maximum bang for their buck.”

Rodenburg says that while dairy producers may not be able to afford to provide maximum comfort, for most dairies the balance between cow comfort and investment in capital and labor is still skewed toward minimizing costs. He feels additional emphasis on cow comfort

would equal higher milk production, better health and better reproduction.

“Improving cow comfort improves profitability. I have conducted CowSignals workshops on dairies that have reported production increases of 6 to 10 pounds per cow within a week of making the recommended changes. I have seen production go up more than that when cows go into a new barn designed with comfort as a priority,” he states. “In the long run, the biggest impact is on reducing the number of health problems like lameness and injuries and metabolic issues related to stress. Fewer problems mean steady production, lower treatment and vet costs, lower culling rates and also less work due to less treatment.”

Cook agrees and adds that bedding has a large impact on production and performance. “While handling sand laden manure can present challenges, it also reaps rewards,” he says. “According to research done by my university colleague, Dr. Pamela Ruegg, sand bedding has typically yielded approximately 2,000 pounds more milk per lactation when compared with organic bedding over mattresses. This research also showed a 5-8 percent decrease in culling rate when comparing sand





bedding to organic bedding.”

Consider the costs

When looking at design tactics for cow comfort, Rodenburg says that modifications like changing a few gates to eliminate dead end alleys can give big benefits with virtually no cost. Also, moving neck rails and removing lunging barriers can be done with little expense, but the bigger stalls require more labor to keep them clean. In many older barns, he says every stall, alley and crossover is smaller than desirable and the best fix might be to use the existing barn for older heifers and build new for cows.

As far as specific technologies to aid in cow comfort, many advisers focus on freestall design and manger space, as Rodenburg notes these are practical places where many barns can be improved. However, he focuses on special needs facilities because cow comfort is really important at times of high stress.

“I focus on high risk animals like small, timid heifers or cows in heat; high risk times like calving; and high risk places like holding areas and the space around robotic milkers,” Rodenburg says. “Providing bedding packs for fresh and lame cows, a separate group for first

calf heifers, roughening slippery floors and opening up space around robots are some things I feel can pay big dividends.”

Rodenburg continues to say that costs of making these modifications vary. Simple things like adjusting ventilation might cost nothing at all, while others like building a new barn involve a high capital investment. Furthermore, using more bedding has a direct cost for purchasing or producing it and very often improving cow comfort also comes with the opportunity cost of increased labor.

Bigger changes affect capital investment and present direct and indirect costs. For example, adding a bedding pack area for fresh and lame cows close to the parlor or robot, could require new capital to add space. It will add bedding costs because a cow in a pack takes more bedding than in a freestall and it will add labor to feed and bed and clean in an extra area of the barn. While these costs may seem high, Rodenburg says the return on investment is higher.

The cows tell the story

Cook offers the following advice. “Improvements made with cow comfort in mind are rewarded in increased milk production almost every time,” he says.

“In our experience, cows are great at telling producers what they prefer. I suggest trying a change in part of the barn and letting cows show you their preference.”

Rodenburg says considering the type of investment versus return assists with analyzing costs. For instance, low interest rates mean that with access to capital, things that involve a onetime cost (renovating or building) can have an excellent return as they are paid once and their benefits last for at least 20 years. In contrast, changes that add operating inputs (using more bedding) or require more labor (pushing up feed more often) generally have a bigger impact on cost.

“It is possible to experiment and sort out what pays off right on the farm. If more bedding and moving the neck rail forward in 20 stalls has cows lining up to lay down, it probably means that doing that in the whole barn will increase resting times and improve production,” concludes Rodenburg. “CowSignals helps give producers and advisers a fresh perspective on cow comfort. When producers participate in a CowSignals workshop, they go home enthusiastic to make changes and try new things. At the end of the day, acting on what we see and learn is the only way to improve things.”