



Less pens, less stress

Limiting pen moves and reducing time in calving pens can improve cow health and production.

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NUMEROUS studies have examined how different environments affect milk production and dry matter intake. Unfortunately, most studies have inadequately demonstrated the true impact on cow health. Compromised environments do not affect all animals equally. Some cows are unaffected and perform well, while others succumb to disease and perform poorly.

We believe that to improve the health and well-being of dairy cattle in modern free stall facilities, we must provide for the needs of each cow so

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that she can behave as a herding animal . . . eating with the herd, resting with the herd, and socializing without fear.

The close-up dry pen consists of a small number of cows grouped together for a short period of time, so the pen is continually in a state of flux.

Control of stocking density in this group is difficult despite adequate planning and may relate to breeding problems during a few months in the summer. It is common for fertility to be very depressed through July and August. Following return to cooler conditions, the cows recover body condition and reproductive performance rebounds. This has a major impact on throughput through the transition cow facility which may be understocked during April and May and extremely overstocked during July and August, right at the time when these cows will face the next round of heat stress. Adequate heat abatement measures for both lactating cows during the breeding period and transition cows are, therefore, vital for the control of throughput through the transition period. Farmers have developed a variety of different ways to cope with these “surges” in calving patterns. The best approach appears to be to borrow space from a neighboring pen and to avoid overstocking close-up cows at all costs.

Previous research described these common free stall groupings for managing transition cows which are outlined in Figure 1 under the “Traditional” column. From the far-off dry cow group, a cow is typically transferred to the close-up dry cow group at 14 to 21 days prior to the expected calving date. From here, she is often moved to a bedded pack maternity pen about three days before the expected calving. After calving, she is moved to a pen for cows with nonsaleable milk to stay for two days, then to a fresh cow pen for 14 days, and then to a high group pen.

This plan completes five pen moves in a period of less than five weeks. Essentially, the cow moves to management. She finds herself in a different space, surrounded by different herd mates, and subject to the management change for which she

was moved. As investigators of problem herds, we have become more and more concerned about the frequency and character of these pen moves.

Unfortunately, moving cattle between groups is inevitable. However, we suggest that the number of moves be limited as much as possible. Currently, most dairy advisors recommend a two-group dry period where cows are exposed to a close-up ration for the last 14 to 21 days before calving, but some herds have switched to shortened dry periods that use a single ration for the entire time. Benefits from this strategy may also accrue from a reduction in the number of group changes.

As calving becomes imminent, prior research suggests that the ideal time to move the cow is 24 hours prior to calving. Unfortunately, this timing is difficult to manage. Predicting calving time is nearly impossible, and cows may remain in the maternity pen for a week or more rather than one to two days as expected.

Our field investigation experiences, based upon data from farms that maintained excellent records of pen move dates, suggest that nonesterified fatty acid (NEFA) concentration is elevated in a greater proportion of cows that have spent three or more days in the maternity pen than in cows that stay in the pen fewer than three days. The same farm records show that there is more than a two-fold greater risk for ketosis and DAs for cows that stay on the maternity pack for three or more days, compared to cows that calve within two days on the pack.

A calving strategy which is finding favor in a growing number of medium- to large-size dairies involves moving the cow to a calving pen when the calf’s feet begin to show. The practice presents some disadvantages . . . it requires around-the-clock monitoring of the close-up dry cow group with hourly checks, and moving at this time may interrupt the calving process, particularly in heifers. Once the calf is delivered and the cow has returned to her feet and is able to walk without mobility problems, she is transferred to the postfresh pen and the calf moved to the newborn housing area. The stay in the maternity pen is measured in hours rather than days.

Another possible strategy is to maintain several large bedded packs, shown in Figure 2, and practice an all-in, all-out policy for the close-up cows. A group of cows expected to calve within a two- to three-week period would be moved into

the prefresh pen where they would remain until they calved. Then another group, representing the following two to three weeks of calving cows, would be moved to another similar pen from which they, too, would calve and move into the postfresh accommodation.

This strategy which maintains small stable groups throughout the dry period has been made

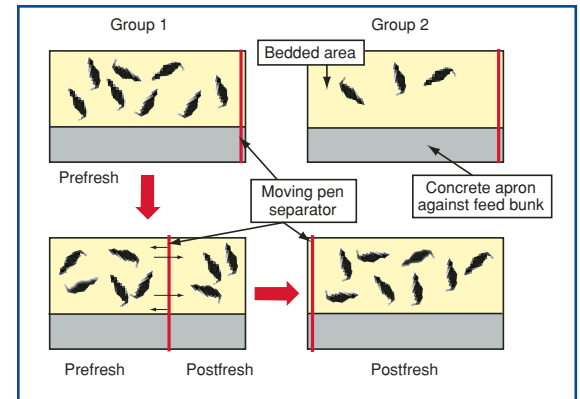


FIGURE 2. A diagram showing the use of an all-in-all dry cow management policy — moving pre-fresh cows from one side of a pen divider to the other on a bedded pack once they calve. Eventually the same group of animals all transition from the pre-fresh group to the post-fresh group, without changing herd-mates. Group 2 operates in a similar manner for another group of cows.

more feasible by the advent of shortened dry periods of 40 to 50 days. Cows could freshen in the pen or be moved to a calving pen as previously described. No new cows would be added until the pen is emptied, cleaned, and rebedded, completing the cycle. This strategy would almost completely remove the stresses of continually mixing cows.

In traditional grouping systems, the cow may be transferred from the calving pen to a nonsaleable milk pen for two to four days, or moved straight to a postfresh monitoring pen for 10 to 21 days. We prefer the latter strategy as it eliminates a pen move. Some individuals that have suffered milk fever or calving difficulties may benefit from a short period of time in a smaller group away from more aggressive cows, however.

First-calf cows are uncommonly split from older cows during the immediate postfresh period, primarily due to the convenience of health monitoring in a single group. However, first-lactation cows benefit greatly from separate housing before and after calving.

With these alternative strategies, the cow can proceed through the transition period with fewer pen moves and rank changes. However, for the strategies to work, the facility must be well designed and the management excellent. Following are five critical points:

1. Bedded pack management and hygiene must be excellent, necessitating the need for a plentiful supply of clean, dry fresh bedding material on a well-designed, comfortable lying surface with excellent drainage.

2. The close-up pen must be checked frequently by a well-trained person hourly, 24 hours per day.

3. The close-up pen must be located immediately adjacent to the individual cow calving pens so that the move at the time of delivery, if used, is easy and stress free.

4. The calving pens must also be located in an area away from cow traffic.

5. Cows, and in particular heifers, must be allowed to progress through the stages of labor, without repeated disturbance.

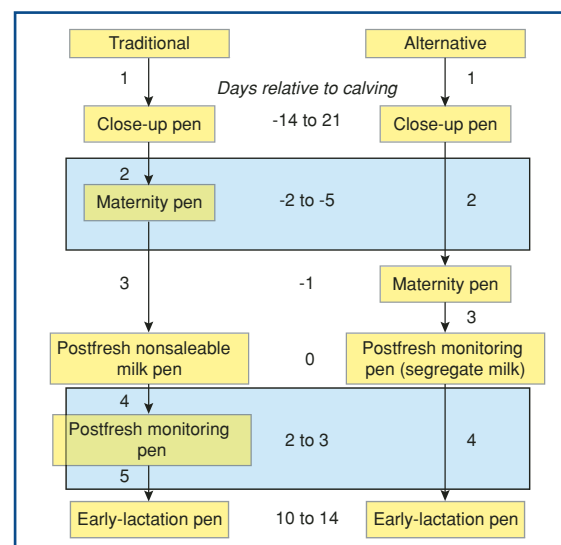


FIGURE 1. A pen move comparison for the traditional grouping strategy for transition cows, compared to an alternative strategy aimed at avoiding moves between 2 and 5 days before calving and 2 to 3 days after calving — highlighted in the light blue areas.

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