



Key factors to maximize transition success

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The transition period has long been recognized as the most critical phase in the lactation of a dairy cow. Therefore, what can we do to maximize chances of an easy transition ensuring maximum production and optimal health for future lactations?

This paper is a follow-up to our “Everything you need to know about the Transition Cow Index® in 10 points,” which was featured in the October 2017 edition of the Advocate. Although TCI is a very useful and objective evaluation tool, there are certain factors that should be considered to ensure a successful transition. By comparing housing, management and feeding strategies used by farms with either a high or low TCI, it was possible to determine certain factors that have a positive impact on transition.

5 key factors for a successful transition – free-stall herds

Dr. Ken Nordlund from the University of Wisconsin-Madison compared several herds in the state of Wisconsin and suggested we pay close attention to these five key points:

1. Appropriate bunk space (close-up and fresh cow pen)

End of gestation cows do get much larger and require more bunk space than lactating cows. In addition, close-up and fresh cows might be less aggressive at the feed bunk, and might even avoid the bunk if space is tight. Appetite and consistent dry matter intake are important elements to consider for a successful transition. Providing sufficient bunk space (minimum 30 inches/cow) is the most critical element. Keeping stocking density at 80 per cent is another way to provide more bunk space per cow.

2. Minimizing moves and social stress

Moving to a new pen or getting a new “roommate” generates a lot of stress in a group because pen hierarchy will inevitably need to be redefined. Stress implies reduced intake and lying time, which we want to avoid in this specific period. Try grouping cows only once a week, instead of adding new cows every 2-3 days.

3. Amply sized free-stalls or bedded packs

Pre-calving cows are large and heavy, and need to rest a lot. The current recommendation is 140 square feet per cow. Again, stocking density in these pens should be low (max 80 per cent) to avoid competition and maximize rest and intake.

4. Surface cushion

Cows lying on sand or deep bedding are more comfortable and have greater transition success. If these two types of bedding are not possible, ensure to provide plenty of straw and a soft mattress.

5. Effective screening program for cows needing close monitoring

In Dr. Nordlund’s study, the herdsperson in the elite herds paid special attention to transition cows, mainly by assessment of fresh cow attitude and appetite. This implies that resources (people and time) should be dedicated to monitoring the transition cows.

Interestingly enough, ration composition is not part of these five key points, suggesting that an appropriate ration is still important, but that optimal management, minimal stress and close monitoring of the transition cows is even more critical.

Key factors for a successful transition – tie-stall herds

Considering that there are no published studies available for tie-stall herds, we decided to use our Quebec herds to evaluate the key factors that set apart herds with excellent transition from herds with less success. We solicited 40 tie-stall herds, 20 of which had a high TCI (Average + 400), and 20 with a low

TCI (Average - 400). Below are the factors identified by this study.

1. Dry matter intake of the fresh cows

Our study revealed that the higher the DMI in early lactation, the higher the TCI. These results correlate with the well-known concept that a good appetite in the transition period is a good sign of health and ensures a good lactation start.

2. Ration composition

Although the ration was not a critical factor for transition success in free-stall herds, our trial demonstrated that ration composition was the second most important factor in tie-stall herds. According to our results, energy density in the fresh group (providing sufficient energy for the rapidly increasing demand) as well as avoiding excess protein intake pre-calving both had significant effects. Excess protein in the pre-calving ration, especially excess degradable protein, had previously been reported to negatively affect dry matter intake, which could explain transition challenges.

3. Cow attitude (stress)

This factor was not originally intended to be included in the study. However, the students collecting the data mentioned that level of cow attitude was very different among herds, so it was recorded. Although a subjective

measure, it became an important factor in explaining transition success. As expected, herds where cows were very nervous had the worst results.

4. Implementation of preventive measures

Producers who work on prevention had the best transition results. The administration of a Rumensin bolus to all cows or a portion of the herd was one of the key preventive measures maximizing transition success.

5. Stall size

Increasing stall width and length both increased the herd’s average TCI, reinforcing the point that these large and heavy cows need appropriate space to rest as much as possible.

6. Number of feed push ups

Producers with better transition success pushed feed at least three times a day. In a tie-stall set-up, this management practice probably also allows to assess cow appetite and attitude more frequently, which helps early diagnosis.

These key points should be addressed to ensure a successful transition and to maximize future production. Rigorous monitoring of transition success allows producers to evaluate management or feeding practices, and find the best strategy to maximize the potential of their herd.



Pre-calving pen with sufficient space per cow and comfortable bedding is crucial to maximize chances of a successful transition.