

Optimizing Transition Cow Performance

Todd Stroup, Cameron Nightingale, PhD, James Tully, PhD, Dipl ACAN



Rules for successful transitions

5. Fresh Cow Monitoring

Many interactions between production diseases exist during the transition period confounding the identification of the leading issue. Data reveals that upwards of 50% of cows during the transition period may have subclinical ketosis or milk fever.

A. Monitoring blood metrics for energy and calcium balance can be a useful tool.

- Measurements of nonesterified fatty acids (NEFA) pre-fresh (at least 5 days prior to calving) reflects the magnitude of which body stores of fat are being mobilized which can indicate if dietary energy is insufficient and a risk factor for ketosis (at a level >0.3 mEq/l). This is a laboratory assay test.
- Measurements of beta hydroxybutyrate (BHBA) post-fresh (3-15 DIM) reflects the extent to which mobilized body stores of fat are being metabolized into ketone bodies for energy and can indicate subclinical ketosis (at a level of > 1.2 mmol/L). This is a rapid cowside test.
- Measurements of blood calcium pre- and post-calving reflect calcium status and can indicate subclinical hypocalcemia (at a level < 8.5 mg/dl).

B. The “Fix” for most transition challenges is dry matter intake

Rules for successful transitions

6. Monitor Disease Incidence

Risk for disease during the transition period increases with blood metabolite levels over the critical thresholds developed by large-scale research projects.

A. When pre-fresh NEFA levels are > 0.3 mEq/l

- Cows are 1.8-2.2 times more likely to get ketosis, DA, metritis, or RP
- Cows are 20% less likely to become pregnant than those animals with lower concentrations
- Cows have nearly 1500 pounds less ME305 projected milk production than those animals with lower concentrations

Rules for successful transitions

6. Monitor Disease Incidence – Continued

B. When post-fresh BHBA levels are > 1.2 mmol/l

- Cows are 2.3 to 6.9 times more likely to get ketosis, DA, metritis, or RP
- Cows are 10% less likely to become pregnant than those animals with lower concentrations
- Cows have less ME305 projected milk production than those animals with lower concentrations

Practical Suggestions – Key considerations

1. Do everything possible to encourage and support high dry matter intake
2. Body condition score
3. Bunk and lying space adequacy and management
4. Dry period length and target days in close up (consider changes in gestation length on a quarterly basis due to season or sexed semen use) and are we hitting the target?
5. Loading and feeding accuracy of the TMR
6. Stocking density in pre- and post-fresh pens
7. Water availability
8. Calving-pack space adequacy and cleanliness
9. Excessive moves
10. Timeliness of colostrum harvest and cow management immediately post-calving

Practical Suggestions – To capitalize on differences

1. “Everything works for somebody” (Dean Allen, MN)
 - a. No two dairies are alike. Avoid comparisons across the fence.
2. Jerseys will sort rations to a greater extent than other breeds.
3. The feed efficiency advantage is maximized with high quality forages, and targeted nutrients.
4. High production, mature Jerseys will need extra care. We highlighted MF, however all metabolic diseases at transition are related.

(No particular order)