

Management Needed for Care-free Milking Dairy Cows: Management of Transition Dairy Cows

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Feeding and management programs for transition dairy cows have a major impact on the milk production and health of dairy cows after calving. The transition period is defined as the period 3 weeks before calving through 3 weeks after calving. Small changes in the management of these groups of dairy cows can have dramatic effects on feed intake, subsequent health, and longevity of these dairy cows. As we learn more about the metabolic, nutritional, behavioral, and management needs of these cows, several important factors become evident. These are discussed in this article.

1st and foremost: The next lactation starts at dry off not calving

Feeding and management practices during the dry period have a direct impact on the health and milk production of cows in their next lactation. Gone are the days when dry cows are placed on the back forty and forgotten about since they are not producing income for the dairy operation. Development and implementation of sound management protocols can decrease the incidence of metabolic disorders or diseases around the time of calving. The key point to remember is that these protocols need to start at dry off and even in late lactation of the previous lactation. By paying attention to details during the far-off dry and transition periods, early lactation cows will be better prepared to milk to their genetic potential, rebreed, and will be healthier.

Prevent overconditioned cows at calving.

Our definition of the proper body condition at dry off has changed over the years. In the past we wanted dairy cows to go dry at a body condition score of 3.5 and to maintain this body condition during the dry period. Today we are looking at drying cows off at a body condition score of 3.0 to 3.25 and holding this amount of body condition during the dry period.

Dairy cows that calve with a higher body condition score (3.5 or greater) have a higher risk of fatty liver and ketosis and lower fertility. Over--conditioned springing heifers have a higher incidence of dystocia which leads to a host of fresh "heifer" health problems such as retained placenta and metritis. More moderately conditioned cows lose less body condition after calving and consume more feed and may have less metabolic problems around the time of calving. A fine line exists between a pre-fresh dairy cow that is too fat versus too thin. Body stores of fat are still important to that cow but we just do not want too much of a "good thing".

Application to feeding and management programs

1. Balance far-off dry cow diets to match requirements for energy: Diets for far-off dry cows that are corn silage based need to be balanced to provide adequate but not

excessive amounts of energy. In the diets recommended by the University of Illinois (sometimes called the goldilocks diet), wheat straw is used to dilute the energy density of the diet. These diets also contain corn silage and corn grain to provide a fermentable carbohydrate source for these cows.

On the flip side of the coin, we do not want to underfeed energy and other nutrients to the dry cow. This can become an issue when dry cows are fed poor quality grass hay, no corn silage, and/or the incorrect amount and type of grain mix. These dry cows lose weight and calve with lower than optimum body condition.

Bottom line: Test forages fed to dry cows and heifers, balance rations for these groups of cows, implement these rations, and monitor the body condition scores of these cows.

2. Prevent overconditioned cows in later lactation: Monitoring the body condition of cows in later lactation is important especially in lower producing cows and those with breeding problems and long days in milk. Feeding programs for the lactating herd have evolved to get cows to milk to their genetic potential. In herds that are fed a single ration and no rBST is used, some cows may put on more body condition than desired. When these cows reach a body condition score of 3, a separate diet may need to be fed which contains more forages and by-products to prevent these cows from becoming over-conditioned during late lactation.

Bottom line: Monitor body condition of late lactation cows. When cows become over-conditioned (BCS=3.0), consider forming a separate group with their own ration formulated using a greater amount of forages and by-products.

Lameness is a transition cow disease

Transition cow programs, especially those which impact close-up dry cows, have a direct impact on the incidence of displaced abomasums, retained placentas, milk fever, ketosis, fatty liver, udder edema in heifers, and lameness seen after calving. Sometimes these metabolic disorders are resulting in problems within the herd but are not seen because they are subclinically affecting these cows (i.e. milk fever, ketosis). In other words, they are impacting the health of the affected cow but are not causing disease symptoms severe enough to be seen.

In herds where a higher percentage of cows are culled due to involuntary culling or death within the first 60 days after calving, the management of cows during the transition period should be reviewed. Feed intakes of these cows were more than likely decreased prior to calving. Cows which are overconditioned at calving have lower dry matter intakes and a higher incidence of these metabolic disorders. One point which must not be overlooked is that the incidence of one of these metabolic disorders also increases the likelihood the cow will have multiple metabolic disorders.

Management during the transition period may increase the incidence of lameness seen after calving. Pre-fresh cows which have less than optimum bunk space may spend more time standing waiting to eat. These cows spend less time resting. This is especially true for those cows and heifers with a lower social status within a group of cows. Older cows are a little

more successful at increasing their feeding rate to accommodate the decreased feeding space than heifers. Also, when freestalls are overstocked, cows lay down quicker to “make sure they get their stalls”. All of these factors can contribute to an increase in the incidence of lameness seen later in lactation.

Minimize stress on transition cows—getting cows to maintain feed intake

Our goal is to get fresh cows to eat well after calving and increase their feed intake as fast as possible during early lactation. We also know that cows which eat well before calving, eat well after calving and have less metabolic problems around the time of calving. To accomplish this goal, minimizing the stresses on transition cows is important. During the transition period, small changes in management can have a large effect on feed intake and we want to manage the transition cow to minimize placing extra stress on her.

Key areas to minimize stress on transition cows

1. Provide 30 to 36 inches of bunk space per cow in both the pre- and post-fresh areas. The transition period is not the time to compromise bunk space. Facilities need to be sized to accommodate the maximum number of cows in the group or “surges” in the number of cows calving (general recommendation is to size for 130 to 140% of the weekly average expected in this facility area). At the least, the amount of bunk space needs to be assessed and corrected when more cows are added to the close-up (pre-fresh) and post-fresh groups. Heifers are most susceptible to limited bunk space.
2. Provide adequate area for cows to rest. In freestalls, pre-fresh cows that had access to freestalls bedded with sand or a deeply bedded area had a lower incidence of lameness later in lactation. Remember that lameness due to sole ulcers takes 8 to 15 weeks to appear. Several factors increase the incidence of lameness, such as nutrition, facility design (number of stalls, stall design), trauma caused by the standing surface (rocky surface) and infectious agents. Management of the transition cow can have a substantial affect on the incidence of lameness later in lactation.
3. Minimize heat stress on pre and post fresh cows. Providing shade and fans for close-up dry cows is important in maintaining intake before and just after calving.
4. Keep the movement of cows between groups to a minimum for pre- and post fresh cows and heifers. The social structure within a group takes 2 to 3 days to sort itself out. In smaller herds, moving cows should not be more frequent than weekly to minimize disruption of the social hierarchy. In larger herds, the recommendation is to keep cows together and move them from the far-off to close-up facilities as a group rather than as individual cows.