



## West Central News

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# SoyChlor<sup>®</sup> and One Group Dry Cows

**W**ith seven to eight week dry periods, cows are traditionally fed a relatively inexpensive, low energy diet from dry-off until three to four weeks before calving. The goal is to maintain cow body condition while meeting requirements for protein, minerals, and vitamins. The last three to four weeks of pregnancy – the close-up period – the energy of the diet is often increased. Theoretically, the goal is to “prepare the rumen for the lactating diet”. Protein is often increased and feed additives aimed at improving transition cow health are added. Including SoyChlor<sup>®</sup> at this time to adjust DCAD and provide available Mg can improve Ca balance at calving. Monitoring urine pH will help determine if the proper amount of SoyChlor has been added. The urine pH collected from cows on the diet, after one to three weeks, should average 6.2-6.8. A pH measurement within these levels indicates the cows are in a state of compensated metabolic acidosis.

More farms are forming a single group of dry cows, with or without heifers, fed a single diet. A huge advantage to one group of dry cows is fewer moves and social changes for the cows. When a cow introduced into the close-up group calves within seven days; it is often trouble. If she does not end up being culled, she is likely to make 2400 pounds less milk than her herdmates who've been on the same diet for at least 21 days before calving (Corbett, 2002). One group dry cow strategies ensure all cows are on the diet and in their social group well before calving.

Small dairies can have trouble preparing a TMR with just a few cows in the close-up group. A larger, single dry cow group allows smaller dairies to accurately prepare a well mixed diet. Energy content of these diets must be kept low to prevent cows from gaining too much weight. As a result, these diets tend to be high in straw or mature hays, forages that can often be low in potassium-improving DCAD! If

chopped correctly so sorting is avoided, these diets do a good job of preventing displaced abomasum. Beware that the low energy may limit microbial protein production, so it may be necessary to provide some rumen bypass protein to meet the metabolizable protein requirement of these cows.

Are there problems with using SoyChlor for the entire dry period? We know cows fed SoyChlor excrete roughly 3 more g Ca in their urine each day than cows not on SoyChlor. This Ca is largely derived from bone. So over a 60 day dry period, the SoyChlor cow could lose about 150 more g Ca from her bones. Research shows that in the first two to three weeks of lactation the typical cow will lose about 1,300 g Ca from her bones. We have not seen evidence the additional 150 g bone Ca loss imposed by SoyChlor use has increased fracture rates in cows. Amazingly, the cow puts all that Ca back into her skeleton in later lactation.

Other than higher cost, the major problem from feeding SoyChlor the entire dry period arises when trying to interpret urine pH. After being on SoyChlor three to four weeks, urine pH will increase in the cow as she adapts by using her bones to buffer the acidifying anions coming from SoyChlor. This actually indicates the DCAD program is working and we see no loss of efficacy of the diet. The pH rises from 0.5-0.8 pH units above the urine pH seen in cows that have only been on the diet for one to three weeks. This means we must collect urine from cows that have been on the diet just one to three weeks to assess whether we have too much or too little SoyChlor in the diet, or if urine from cows within one to two weeks of calving is used, the target pH must be increased to 6.7-7.2.

Corbett, R. B. 2002. Influence of days fed a close-up dry cow ration and heat stress on subsequent milk production in western dairy herds. *J. Dairy Sci.* 85(Suppl. 1):191-192. (Abstr.)

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