

Texas Dairy Matters

Higher Education Supporting the Industry

EXTENDED FEEDING OF NEGATIVE DCAD RATIIONS IN DRY COWS

Ellen R. Jordan, Ph.D.
Extension Dairy Specialist
Department of Animal Science
Texas A&M AgriLife Extension Service
The Texas A&M University System

Many herd owners currently feed rations with a negative dietary cation-anion difference, sometimes referred to as anionic salts, to reduce the risk of milk fever and other postpartum diseases. The general recommendation has been to feed these rations for 21 days before calving, which has necessitated having at least two dry cow groups. For some dairies, having multiple groups of dry cows isn't practical.

So the question becomes "Is feeding anionic salts for a longer period of time detrimental?" Recently, research was conducted at the University of Minnesota to address this very issue. Sixty Holstein or Holstein-cross cows that were carrying at least their second calf were assigned to one of three diets 42 days prior to their expected calving date.

Cows were housed in a tiestall barn and fed individually. The control cows (Con) were fed a ration without anionic salts. There were two groups of cows fed anionic salts, one (T42) for 42 days before calving and the other (T21) received the control ration for the first 21 days followed by 21 days of anionic salts.

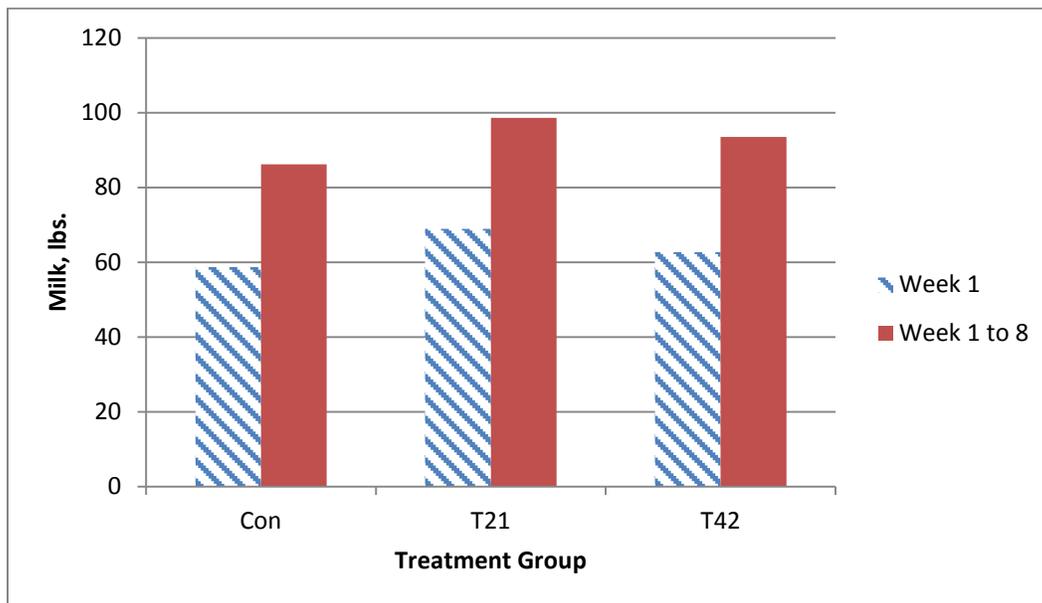
Urine pH was taken during the dry period to confirm that the anionic salts created a mild acidosis. The pH was 8.2 in the Con cows and 6.6 in the T42 cows during the dry period. During the three weeks on the anionic salts, urine pH averaged 6.5 for the T21 cows.



Dry matter intake was unaffected by supplementing with anionic salts prior to calving, and dry matter increased after calving in all groups. After calving there were no differences in dry matter intact between cows on the anionic salts for 21 or 42

days. However, cows fed the anionic salts for 21 days had greater dry matter intakes after calving than the controls. Changes in body weight before and after calving were similar across all treatments.

Anionic salt supplementation did not affect, calf weight, calving ease score, colostrum yield or immunoglobulin concentration in the colostrum. Cows fed the anionic diets tended to produce more milk during the first week after calving than the control cows (Figure 1). Cows fed the anionic salts for 21 days before calving produced more milk than the control during the 8 weeks after calving, but there was no difference in milk production between cows fed the anionic diets 21 or 42 days (Figure 1). Milk fat and protein yield did not differ among treatments.



Feeding anionic salts for up to 42 days prior to calving does not appear to have detrimental effects on postpartum yield or other measures of cow performance. Thus if facility limitations require feeding only one dry cow ration it appears that anionic salts may be included. Of course you still should check that the value of the beneficial effects of including anionic salts still covers the cost of their inclusion.

Reference

Weich, W., E. Block, and N.B. Litherland. 2013. Extended negative dietary cation-anion difference feeding does not negatively affect postpartum performance of multiparous dairy cows. *J. Dairy Sci.* 96:5780-5792.

<http://texasdairymatters.org>

September, 2013

The Texas A&M AgriLife Extension Service provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating