



BALANCING RATIONS FOR POSITIVE DCAD

WHY IT MATTERS AND HOW TO DO IT

FEEDING A LACTATING RATION PROPERLY BALANCED FOR DIETARY CATION-ANION DIFFERENCE (DCAD) IS CRITICAL.

DCAD MEASURES THE LEVELS OF FOUR MACROMINERALS IN THE DIET: POSITIVELY CHARGED CATIONS, POTASSIUM (K) AND SODIUM (NA), AND NEGATIVELY CHARGED ANIONS, CHLORIDE (CL) AND SULFUR (S). BY COMBINING THESE CHARGES THE RATION DCAD NUMBER IS DETERMINED.



Achieving a positive DCAD can help neutralize blood acid load caused by high milk production, ketone development and free fatty acids from body fat mobilization. Increasing the K component of DCAD will help replace what is lost through increased milk production. The optimum DCAD range for high-producing cows is +35 to +45 meq/100g dry matter.

HOW TO REACH POSITIVE DCAD LEVELS

- 1 Conduct wet chemistry analysis for Na, K, Cl, S and Mg levels on forages and byproduct commodity feeds (whey, molasses, etc.) that typically have variances in DCAD minerals.
 - ✓ While book values represent average DCAD levels, there is often large variability among feedstuffs. Wet chemistry analysis is the only way to know the exact DCAD levels of your feed ingredients and forages.
 - ✓ Obtain water analysis since water sources can contribute additional minerals and impact ration DCAD.
- 2 Remove as many chloride and sulfate salts as possible from the diet. This alone will increase DCAD levels.
- 3 Adjust DCAD levels to your target by adding a sodium buffer (ARM & HAMMER™ Sodium Bicarbonate or SQ-810™) to the ration. Total dietary sodium can be raised to as much as 0.8% of the ration dry matter. This would add the needed rumen buffering, as well as give you the ability to fine tune the DCAD¹.
- 4 Add DCAD Plus™ to achieve a dietary K level of at least 1.7% of the total DM during non heat-stress periods, and to at least 2.0% immediately before and during heat-stress periods of the year.
- 5 Adjust dietary Mg such that the ratio between K and Mg is between 4:1 and 5:1.



ANIMALS FIRST.
PRODUCTIVITY ALWAYS.

FEEDING DCAD PLUS™ AND ARM & HAMMER™ RUMEN BUFFERS THROUGHOUT LACTATION, ESPECIALLY DURING WARMER WEATHER, HELPS MAINTAIN POSITIVE DIETARY DCAD LEVELS TO ALLOW FOR NORMAL HERD PRODUCTIVITY.

¹ Arm & Hammer Animal Nutrition. DCAD Nutrition for Dairy Cattle Research Summary. PC 2063-1003, 2010.