

ARM & HAMMER FORAGE TESTING PROGRAMSM RESULTS

What is the Arm & Hammer Forage Testing ProgramSM?

Arm & Hammer Animal Nutrition partnered with several forage testing laboratories to promote and provide education on the importance of ration dietary cation-anion difference (DCAD) balancing.

Participating producers and nutritionists submitted up to three forage samples for complimentary macromineral analysis by wet chemistry. The results help to properly develop rations based on recommended DCAD levels for pre- or postpartum cows.

What is DCAD and why is it important?

Balancing rations for DCAD is important for keeping cows healthy, productive and profitable. DCAD is the difference between positively charged cations—sodium and potassium—and negatively charged anions—chloride and sulfur—in the bloodstream, measured in milliequivalents (meq) per 100 grams of ration dry matter.

Results

Over 1,100 forage samples were collected and analyzed during the program. Results by geographic region are shown below.



North Central Samples			
Sample Type	Average DCAD	Minimum	Maximum
Legume Silage	46.9	-5.67	99.84
Corn Silage	14.59	-0.35	45.93
Small Grain Silage	35.38	11.18	77.99
Balage	22.94	9.04	25.52
Legume Hay	45.62	33.33	83.36
Grass Hay	21.48	-19.95	70.57

Includes forage samples from SD, ND, MN, WI, MO, IL and MI

Northeast Samples			
Sample Type	Average DCAD	Minimum	Maximum
Legume Silage	42.46	15.48	59.23
Corn Silage	14.03	1.11	29.28
Grass Silage	27.83	20.5	41.41
Small Grain Silage	48.25	36.46	60.05
Grass Hay	28.11	14.28	56.5

Includes forage samples from OH, PA and NY

Monitor DCAD Throughout All Production Phases

Recommended DCAD Levels ¹ (meq/100g ration dry matter)				
Production Phase	DCAD Levels	Why	How	Benefits
Early Lactation Mid to Late Lactation	+35 to +45 +35	Maintain cation levels for optimum milk production		Promotes herd health and enhances milk and component production and helps mitigate heat stress
Close-up	-8 to -12	Maintain anion levels to avoid metabolic issues postpartum		Helps cows avoid costly metabolic disorders, and sets the stage for a successful subsequent lactation

Bottom Line

- Most average DCAD levels fell within accepted book values, but individual samples, as noted above, displayed wide variability.
- Regular forage testing is imperative to provide an accurate picture of DCAD levels from your forages.
- Without macromineral testing, it's impossible to know the supplemental cations or anions needed to balance the proper ration for your cows in different production cycles.

¹ Data on file.