ARM & HAMMER ANIMAL NUTRITION
Rev it up with K.
OVERVIEW

• The DCAD Plus™ Advantage
• Potassium (K) Fuels Production
• DCAD Plus Drives Positive DCAD
• More K, More Milk
• Solve Milk Fat Depression – Fast
• Take the Stress Out of Heat
• Fast Track to Profits
• Fuel Up: Recommended Feeding Rates
THE DCAD PLUS ADVANTAGE

• A stabilized K that doesn’t overheat
• The right K to boost ration dietary cation-anion difference (DCAD), support peak production, mitigate heat stress and minimize milk fat depression
DCAD Plus
Kick it up with K!

Supports nutrient needs for K and delivers positive DCAD for lactating, especially postfresh cows
Combats the effects of heat stress

Safe and consistent: no adverse reaction to moisture and minimal heating of the ration, premixes or concentrates
Helps keep cows hydrated, especially during hot weather
Supports increased milk and component production
No decrease in ration DCAD due to the chloride in potassium chloride
• Most early-lactation and high-producing cows are K deficient†‡
• K positively impacts ration DCAD to boost milk and component production‡ ∆
Save time by avoiding K drenching or bolusing to address fresh cow challenges. Feed DCAD Plus to quickly deliver the K cows need, while helping them stay hydrated, without the added labor and expense of other management practices.
DCAD PLUS DRIVES POSITIVE DCAD

- Corrects K imbalances and buffers blood to prevent DMI losses and maximize milk production
- Does not contain the chloride anion, which counteracts the positive DCAD effects of K, and is often found in other K sources
## Positive DCAD Postpartum

<table>
<thead>
<tr>
<th>Production Phase</th>
<th>Ration DCAD Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Lactation</td>
<td>+35 to +45 MEQ/100g</td>
</tr>
<tr>
<td>Mid to Late Lactation</td>
<td>+35 MEQ/100g</td>
</tr>
</tbody>
</table>
Seasonality and climate can affect DCAD levels. Test forages often using wet chemistry analysis to ensure proper DCAD levels are being fed.
A CONSISTENTLY SMOOTH DRIVE

• Research† shows that forages can be incredibly variable in their macromineral composition
  • Geography and weather conditions affect DCAD levels
  • DCAD cannot consistently be increased through forages alone

## DCAD Variability of Corn Silage

<table>
<thead>
<tr>
<th>Region</th>
<th>DCAD Level meq/100g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast n=85</td>
<td>-13.93  20.94 AVE.  77.54</td>
</tr>
<tr>
<td>Southeast n=7</td>
<td>6.78  20.92 AVE.  54.80</td>
</tr>
<tr>
<td>Southwest n=21</td>
<td>-2.27  21.78 AVE.  53.73</td>
</tr>
<tr>
<td>South Central n=11</td>
<td>-14.05  46.10 AVE.  275.37</td>
</tr>
<tr>
<td>North Central n=376</td>
<td>-2.62  17.59 AVE.  100.00</td>
</tr>
<tr>
<td>Canada n=11</td>
<td>12.35  36.94 AVE.  44.29</td>
</tr>
</tbody>
</table>
**DCAD Plus: the safe route.**
DCAD Plus delivers K carbonate sesquihydrate in a proven and palatable formulation so the ration won’t heat or react adversely to moisture.
University research † shows that increasing K and DCAD in early-lactation diets resulted in increase milk and components.
SOLVE MILK FAT DEPRESSION – FAST

• The rumen becomes acidic through:
  • Highly fermentable carbohydrates
  • Insufficient fiber
  • Large quantity of unsaturated fatty acids

• Rumen bacteria can produce milk fat intermediates that can cause milk fat depression

• DCAD Plus can positively influence butterfat production even when feeding high-fat byproducts†‡

Got milk fat depression?
A common culprit is the variable amounts of fatty acids from feeds like DDGS, gluten and hominy. Cottonseed and other oilseeds, combined with increasing dietary starch and other fermentable feeds, can also contribute.
TAKE THE STRESS OUT OF HEAT

- DCAD Plus provides the K needed to replenish what’s lost through perspiration and urination
- Buffers metabolic acids, which increase during times of heat stress
- Supports feed intake and rumination during hot weather
FAST TRACK TO PROFITS

<table>
<thead>
<tr>
<th>Milk Fat Improvements Increase Profitability</th>
<th>Herd Historical</th>
<th>DCAD Plus</th>
<th>The DCAD Plus Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cow/Day</td>
<td>1,000-cow herd/305-day lactation</td>
<td></td>
</tr>
<tr>
<td>Milk production (lbs.)^a</td>
<td>83.0</td>
<td>84.0</td>
<td>305,000 lbs. of milk</td>
</tr>
<tr>
<td>Milk fat (%)</td>
<td>3.2%</td>
<td>3.6%</td>
<td>112,240 lbs. of milk fat</td>
</tr>
<tr>
<td>Milk protein (%)</td>
<td>3.0%</td>
<td>3.0%</td>
<td></td>
</tr>
<tr>
<td>Other solids (%)</td>
<td>5.0%</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td>Fat income, $(fat lbs. * price)</td>
<td>$4.14</td>
<td>$4.72</td>
<td></td>
</tr>
<tr>
<td>Protein income, $(protein lbs. * price)</td>
<td>$6.97</td>
<td>$7.06</td>
<td></td>
</tr>
<tr>
<td>Other solids income, $(solids lbs. * price)</td>
<td>$0.42</td>
<td>$0.42</td>
<td></td>
</tr>
<tr>
<td>Milk income (fat + protein + other)</td>
<td>$11.53</td>
<td>$12.20</td>
<td></td>
</tr>
<tr>
<td>ADDITIONAL INCOME WITH DCAD PLUS</td>
<td></td>
<td><strong>$0.67</strong></td>
<td></td>
</tr>
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<thead>
<tr>
<th>DCAD +</th>
<th>Additional Income</th>
<th>DCAD Plus Cost^c</th>
<th>Increased DMI^d</th>
<th>Increased IOFC Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow/day</td>
<td>$0.67</td>
<td>($0.26)</td>
<td>($0.075)</td>
<td>$0.335</td>
</tr>
<tr>
<td>1,000-cow herd/305d</td>
<td>$204,350</td>
<td>($79,300)</td>
<td>($22,875)</td>
<td><strong>$102,175</strong></td>
</tr>
</tbody>
</table>
FUEL UP: RECOMMENDED FEEDING RATES

- Optimum DCAD range for high-producing cows is +35 to +45 meq/100g ration dry matter.

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<th>RATION DCAD LEVELS</th>
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<td>MID TO LATE LACTATION</td>
<td>+35 MEQ/100G</td>
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5 STEPS TO POSITIVE DCAD

1. Analyze forages and byproduct commodity feeds known to vary in DCAD minerals (whey, molasses, etc.) for Na, K, Cl, S and Mg by wet chemistry.

2. Remove as many chloride and sulfate salts as possible from the diet. This step alone will increase DCAD.

3. Add DCAD Plus to achieve a dietary K level of at least 1.7% of the total DM during nonheat stress periods (2.0% just prior to and during heat stress).
5 STEPS TO POSITIVE DCAD

4. Adjust DCAD to your target level by adding a sodium buffer (Sodium Bicarbonate or SQ-810™). Total dietary sodium can be raised to as much as 0.8% of the ration dry matter.

5. Adjust dietary Mg such that the ratio between K and Mg is between 4:1 and 5:1.
Navigate the life cycle journey with DCAD Plus.
Navigate the life cycle journey with DCAD Plus.

Calf & Heifer Start

More products to help you get the job done.

- A-MAX™: Entire life cycle
- BG-MAX™: Day 56 to Day 305
- BIO-CHLOR™: Day -21 to Day 0
- CELMANAX™: Entire life cycle
- ESSENTIOM™: Day -21 to +60/+90 Days
- FERMENTEN™: Entire life cycle
- MEGALAC™: +60/+90 Days to Day -21
- MEGALAC +™: Day 0 to Day 305
- MEGAMINE-L™: Day 0 to Day 305
- SODIUM BICARB: Day 0 to Day 305
- SQ-810™: Day 0 to Day 305

It's about ANIMALS FIRST. PRODUCTIVITY ALWAYS. See more at AHandimalnutrition.com
QUESTIONS?

To learn more about DCAD Plus, your pit crew is standing by: contact your nutritionist, veterinarian or Arm & Hammer Animal Nutrition representative or fuel up at AHanimalnutrition.com.
THANK YOU!