

# Animate<sup>®</sup>

Anionic Mineral Supplement

## Evaluation of ANIMATE, an Anionic Mineral Supplement, on Intake and Urine pH in an On-Farm Topdress Pen Feeding Application to Non-Lactating Dairy Cows

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### MATERIALS AND METHODS

Varying numbers of Holstein cows, pregnant and non-pregnant, were housed in one of two group pens at the University of Idaho Dairy Research Center. Cows were placed in the pens at the start of the experiment, or when dried off. The experimental design was a replicated cross-over design with two fourteen-day periods, in succession. Treatments were diet with ANIMATE added versus diet with regular anionic salts added. The forage base was the same for both diets. The forage base consisted of alfalfa hay, alfalfa silage and wheat straw (Table 1).

Urine samples were taken approximately two hours post-feeding on the last day of each period. Cows leaving the pen to go to the calving barn (before the end of the period) were sampled two hours post-feeding, provided they had been on the diet at least one week. Urine was obtained by manual vulva stimulation, and pH was determined within two hours.

Forage was mixed and delivered into the bunks by the feed mill at approximately 0830 hours. The grain mixes (Table 2) were immediately poured onto the top of the forage, with the addition of ANIMATE (1lb per head per day) to the treatment pen. Orts were weighed and recorded as needed.

Table 3 shows the calculated analysis of the rations.

Table 1. Forage Mix (Control and Treatment)

| Ingredient     | %DM Basis |
|----------------|-----------|
| Alfalfa Hay    | 77.3      |
| Wheat Straw    | 15.8      |
| Alfalfa Silage | 6.9       |

Table 2. Grain Mixes (% as-fed)

|                   | Control | Treatment |
|-------------------|---------|-----------|
| Hammered Barley   | 64.3    | 86.9      |
| Chloride-Ammonium | 9.5     | 0.0       |
| Sulfate-Ammonium  | 8.3     | 0.0       |
| New TM Premix     | 7.3     | 9.8       |
| Magnesium Sulfate | 4.6     | 0.0       |
| #2 Vita-premix    | 2.4     | 3.3       |
| Limestone         | 1.8     | 0.0       |
| Magnesium Oxide   | 1.8     | 0.0       |

Table 3. Calculated Analysis for TMR (DM Basis)

|                                     | Control | Treatment |
|-------------------------------------|---------|-----------|
| Dry Matter, %                       | 56.90   | 57.60     |
| Crude Protein, %                    | 18.55   | 15.05     |
| Net Energy-Lactation, Mcal/lb       | 0.62    | 0.64      |
| ADF, %                              | 29.67   | 29.06     |
| Na, %                               | 0.37    | 0.39      |
| K, %                                | 2.32    | 2.26      |
| Cl, %                               | 1.72    | 1.60      |
| S, %                                | 0.59    | 0.63      |
| DCAD, meq (Na+K)-(Cl+S)<br>/100g DM | -9.90   | -9.70     |

### RESULTS

Results are presented in Table 4. Dry matter intake was 12% higher for the ANIMATE supplemented diet vs. the control diet. Urine pH was not statistically different (P=0.68) between the two diets.



Table 4. Effect of ANIMATE on Intake and Acid-Base Status of Non-Lactating Cows

|            | Control<br>(Reg. Anionic Salts) | ANIMATE | SEM  |
|------------|---------------------------------|---------|------|
| DMI (kg/d) | 12.80                           | 14.30   | 2.97 |
| Urine pH   | 5.97                            | 6.11    | 0.19 |

#### **SUMMARY**

ANIMATE was observed in previous trials to lower urine pH and increase blood ionized calcium. Addition of ANIMATE increased feed intake vs. a diet containing more traditional anionic materials. ANIMATE is a highly palatable anionic mineral.