

# NiaShure™

Precision Release Niacin

## Cool Your Cows From the Inside

Summer heat stress can cause decreased milk production and reproductive performance in dairy cattle. Many herds manage heat stress through mechanical cooling with fans, sprinklers and other ventilation alternatives. Now you can also cool your cows from the inside with NiaShure™ Precision Release Niacin.

### How NiaShure Works

- **Increases peripheral circulation** — Feeding NiaShure increases blood flow to the skin, allowing the skin to dissipate heat by moving blood away from the body core.
- **Increase sweating** — Much like in humans, by increasing the ability for cows to sweat, temperature within the body is reduced.
- **Stabilizes cellular protein structure** — As cows experience heat stress, Heat Shock Proteins (HSP) are produced. HSPs protect cells from damage and refold cellular proteins. Researchers found that cows fed NiaShure had an increased level of HSP.

### Support Production Efficiency

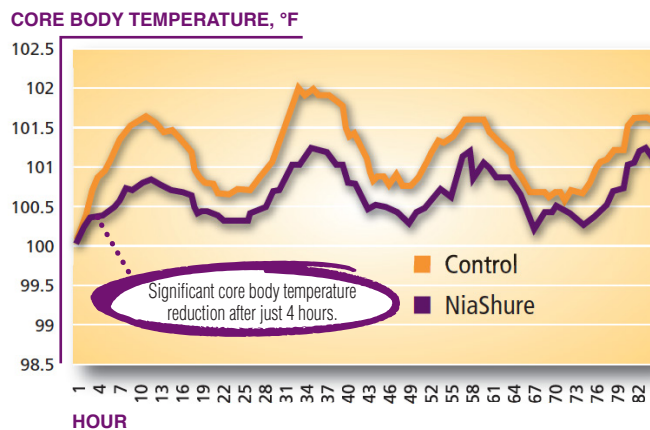
Cooler cows are able to maintain dry matter intake and energy levels during hot weather. Numerous studies looking into the effect of feeding niacin to lactating dairy cows show a positive impact on:

- Energy corrected milk yield
- Feed efficiency
- Milk fat yield
- Milk protein yield

NiaShure is a cost-effective, reliable source of niacin proven to reduce internal body temperature and promote sweating. Estimates show that 95% of raw niacin is broken down in the rumen. Balchem's proprietary encapsulation process ensures that NiaShure reliably delivers eight times (8x) more niacin to the intestinal tract than raw niacin.

Figure 1

### Effect of NiaShure on Core Body Temperature



Zimelman et al., 2007, University of Arizona

### Effect of NiaShure on Production

	Control	NiaShure
Energy Corrected Milk	84.7 <sup>a</sup>	87.3 <sup>b</sup>
Milk Fat %	3.38 <sup>a</sup>	3.65 <sup>b</sup>
Milk Protein %	3.05 <sup>a</sup>	3.09 <sup>b</sup>

a, b significant difference p, 0.01  
Zimelman et al, 2008, University of Arizona

## Add NiaShure Today, See Results Tomorrow

NiaShure is an effective vasodilator that goes to work quickly and doesn't require an adaptation period. When you see a heat event coming, add NiaShure to the ration. As shown in the University of Arizona data (Figure 1) cows fed NiaShure are significantly cooler within four hours. Once the heat event has passed, you can simply remove it from the ration. This allows you to keep ration costs down while still seeing the benefits of precision feeding.

Visit [www.niashure.com](http://www.niashure.com) to learn more.



## Real Science – NiaShure Proven

University and independent research has proven the effectiveness of NiaShure in dairy cattle.

- Effect of encapsulated niacin on resistance to acute thermal stress in lactating Holstein cow R. B. Zimbleman, University of Arizona, 2007
- Effect of feeding NiaShure™ on core body temperature and milk production in lactating Holstein dairy cows during summer heat stress R. B. Zimbleman, University of Arizona, 2008
- Effect of rumen-protected niacin (NiaShure™) supplementation during summer on milk production and composition in lactating dairy cows S. Emanuele, Balchem Animal Nutrition & Health, 2009
- Effects of heat stress and NiaShure™ (NI) supplementation on winter acclimated lactating cattle S. Rungruang, University of Arizona, 2010
- Heat Stress Resistance with Protect Niacin R.B. Zimbleman, University of Arizona, 2008

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