TechMix

REDEFINING HYDRATION

Reproductive Success During Heat Stress

BOVINE

BLUELITE®

PELLETS

by TechMix

Cool cows from the **inside out.**

Bovine BlueLite® Pellets is a dietary supplement functioning to replace electrolytes lost during heat stress. This replenishment helps improve the transport of fluids from the lumen to cells and throughout the body. This also supports the division of nutrients to support production and minimize immune system activation. ***Due to improved water absorption efficiency, cows are able to maintain a lower body temperature during periods of heat stress.***

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TechMix Redefining hydration to keep animals drinking, eating & producing.

Declines in reproductive performance during heat stress.

1. **Estrus intensity lessens during heat stress making heat detection more difficult**

2. **Fertility is reduced**

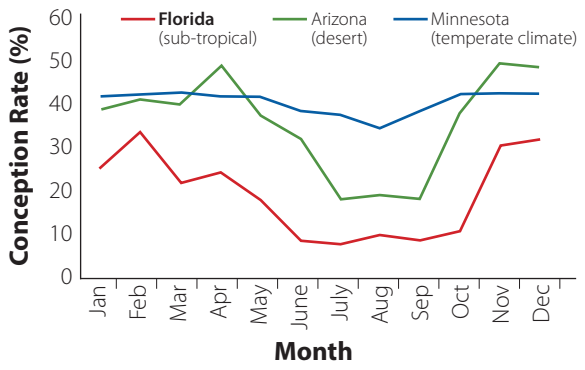
3. **Survival of early embryos is compromised**

Early embryonic death during heat stress is a leading cause of open cows. Commonly, pregnancy failure occurs during the days immediately following conception. An optimal hydration status improves heat dissipation helping to maintain a cooler body temperature—resulting in the preservation of pregnancies.

Heat stress can affect every cow, everywhere.

Different climates affect conception rates - with the higher Temperature-Humidity Index (THI) regions having a more severe effect. (Figure 1)

Figure 1 - Conception rates for U.S. dairy cows



Adapted from Hansen, 1997

The studies here show just how hard heat stress can affect fertility……

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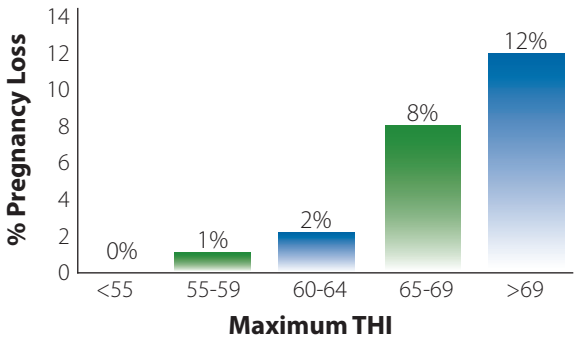
THI, at all levels, can affect pregnancy loss.

A reproduction study showing the effect of THI on Holstein cows shows that even at low THI levels pregnancy loss can occur. (Figure 2)

Figure 2 - Pregnancy loss compared with ranges of maximum THI values.



Adapted from Garcia-Ispierto et al., 2006

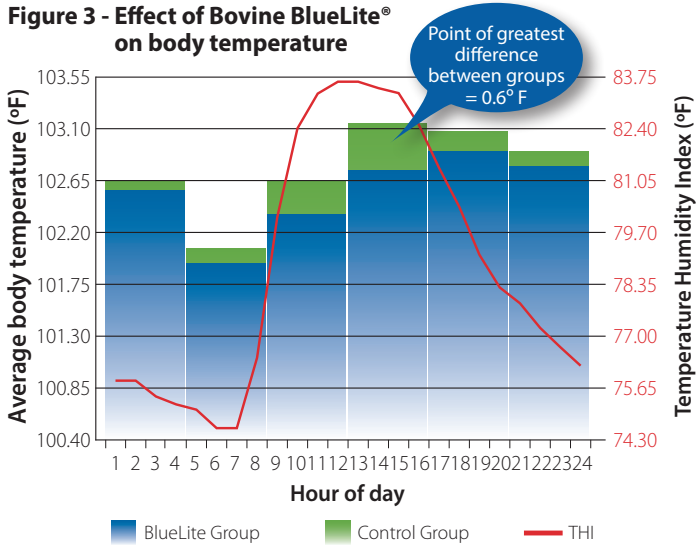
……and also contribute to loss of pregnancies.

Bovine BlueLite Pellets…

TRIAL: University of Puerto Rico

Results from a research study conducted at the University of Puerto Rico demonstrate reduced body temperature and improved milk yield responses in heat stressed cows in a commercial setting. Rations were formulated to target feeding 4 oz. Bovine BlueLite/h/d. Not only did the supplemented cows have an increase in milk production (2.3 lbs./d) they also had a reduced body temperature (0.6ºF, P<0.01) when the THI was the highest (Figure 3).

Figure 3 - Effect of Bovine BlueLite® on body temperature



Commercial dairy trial conducted by the University of Puerto Rico, 2014

…proven to cool heat stressed cows.

TRIAL: Iowa State University

A recent study by M. Al-Qaisi, et.al. (2018), at Iowa State University, was conducted to determine the effects of Bovine BlueLite on body temperature in heat stressed lactating Holstein cows. Results of this study demonstrated that heat stressed cows supplemented with 4oz/h/d of Bovine BlueLite Pellets had increased skin temperature versus non-supplemented. This indicates that the ***cows supplemented with Bovine BlueLite Pellets, are better able to dissipate excess heat through increased sweating and evaporation.***

More reproductive results worldwide.

DEMONSTRATION: Reproductive Benefit of Bovine BlueLite Pellets during high THI

In 2015, demonstrations were conducted on two dairies in Spain. Both dairies experienced extremely high THI. On Dairy 1, during the two-month demonstration, the highest THI was 91 while the average daily maximum THI was 79.1. For Dairy 2, maximum THI was 100 and average daily maximum was 88.4. In addition to 3.77 & 3.06 additional milk, respectively, their was a clear benefit of supplementing 4oz./h/d Bovine BlueLite on reproduction. (Table 1)

Table 1 - Spanish Field Demonstrations

Farm 1
+3.1 Pregnancy Rate (24% improvement)
-8.0 Days Open
Benefit: $70.75/cow/year*

Farm 2
+2.8 Pregnancy Rate (33% improvement)
-10.2 Days Open
Benefit: $83.38/cow/year*
Ave. Daily Maximum THI for both trials = 83.75°F
*University of Wisconsin Madison Pregnancy Calculator

Every open cow costs you $3/day!

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In or Out?

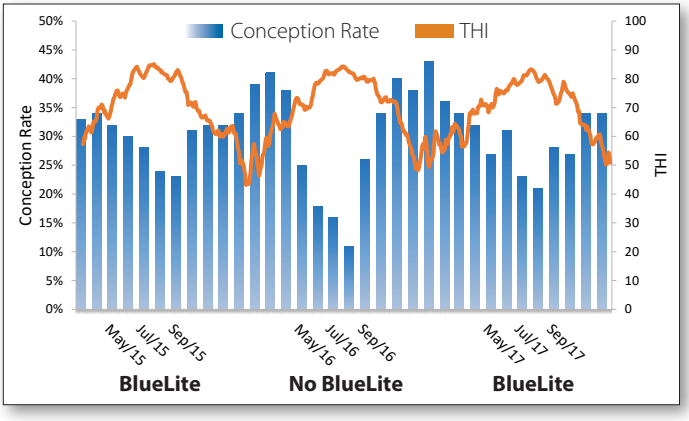
Reproductive success during heat stress.

DEMONSTRATION: Southeast U.S. Evaluation

Reproductive performance was examined retrospectively on a 2,000 cow dairy in southeastern U.S. The dairy supplemented their cows with Bovine BlueLite during heat stress periods (4oz./h/d) during the summers of 2015 and 2017, but did not use Bovine BlueLite during 2016.

During 2015 and 2017, conception rate dropped to about 21-22% while in 2016 a conception rate as low as 11% was witnessed. THI was quite similar during all three periods and the only known change was the inclusion/exclusion of Bovine BlueLite. (Figure 4)

Figure 4 - Impact of THI & Bovine BlueLite on Conception Rates



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The key functional components in Bovine BlueLite® are specifically engineered into the formula to meet the exact physiologic demands of the cow's body during heat stress events. These components work synergistically with the cow's body to meet her fast changing needs. Abatement equipment is an important aid during periods of THI stress, but only nutritional solutions like Bovine BlueLite can quickly and effectively meet her physical needs. Bovine BlueLite is exactly the kind of supplementation the cow experiencing heat stress needs—delivered at just the right time.

Benefits during periods of heat stress.

- ***Ability to maintain lower body temperature***
- ***Better water retention efficiency***
- ***Improved dissipation of excess heat***
- ***Increased pregnancy rates***
- ***Fewer days open***
- ***Save money on abatement and reproduction***

At TechMix we realize the importance of hydration.

What we believe

We believe hydration is the single most important component to the well-being and performance of your animals.

We believe that during stress events, animals don't drink enough water – leading to dehydration – and don't consume enough critical nutrients.

We believe hydration innovation is a critical component to your success.

Who we are

We are TechMix. Hydration is in our DNA.

We are TechMix. We invented BlueLite – and from this technology platform, we develop products to meet the ongoing needs of producers - both today and in the future. BlueLite is the first hydration product to address the specific needs of individual species including swine, beef, dairy and companion animals.

We are TechMix.

To place your Bovine BlueLite order, call **(877) 466-6455.**
Learn more at TechMixGlobal.com

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