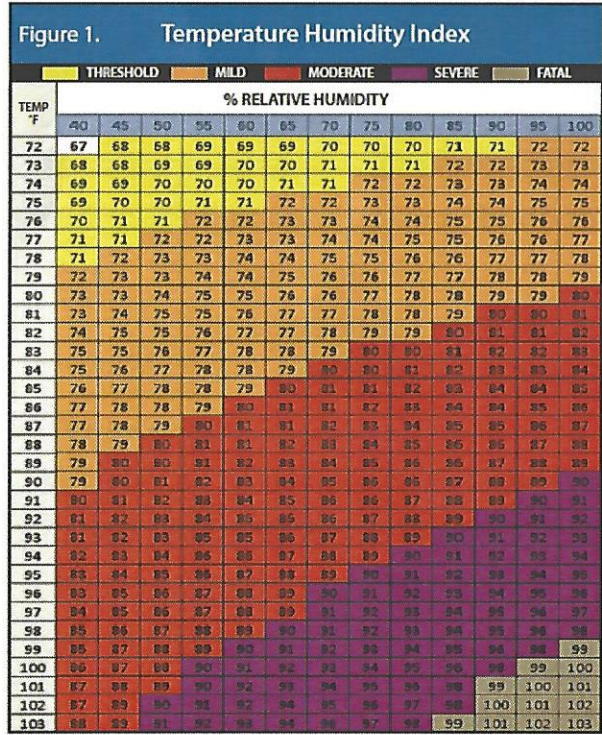


Heat Stress

Just as winter cold brings a set of challenges to the dairyman, so does summer heat. As the temperature and humidity increase, raising the Temperature-Humidity Index (THI), so do the demands on your cattle. A rising THI can cause the animal to experience elevated body temperatures, increased respiration rates, reduced dry matter intakes, acidosis, impaired pregnancy rates, and lower fetus birth weights.

In addition, heat stress can have both short-term and long-term economical consequences. Lower dry matter intakes and acidosis can reduce milk and milk fat production. The negative effects of heat stress on reproduction can have implications that last for months following the heat wave.



Improved Conception Rates!

High summer temperatures can lead to impaired reproductive performance. I.C.E.™ Technology has been shown to improve first service conception rates when it was used on a commercial dairy in Texas. Fewer days open means more productive lifetime days in the milking string.

Table 2. Cows fed I.C.E.™ showed better first service conception rates

		Control	I.C.E.™
Multiparous cows	Cows inseminated	175	197
	Cows pregnant	24	41
	%	13.7 ^a	20.8 ^b
Primiparous cows	Cows inseminated	37	222
	Cows pregnant	7	60
	%	18.9	27.0

a,b means in the same row with different superscripts differ (p<0.10)
Source: Commercial Farm in Texas, 2009



F.M. Brown's Sons, Inc.
Birdsboro, PA
610-582-2741 • 800-362-6455
Out of state: 1-800-367-6455

Website: www.brownsfeeds.com
Email: fmbfeed@brownsfeeds.com



A product designed to reduce the increase in internal body temperature and aid in heat stress abatement. Keep your cattle cool and healthy to maintain milk!

Helps to mitigate the effects of summer heat.

HOW DOES FROST-Y HELP?

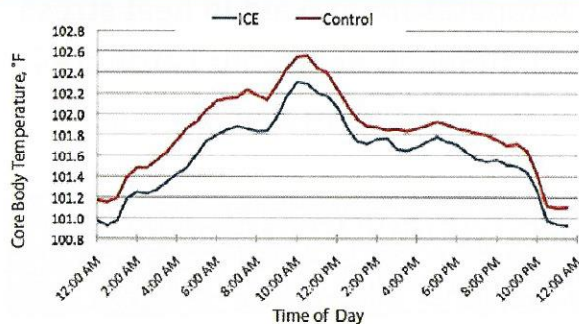
A Multi-Point Approach:

1. I.C.E.™ Technology
2. Organic Zinc
3. Yeast Culture
4. Refined Functional Carbohydrates (RFC)
 - a. Mannan oligosaccharide (MOS)
 - b. d-Mannose
 - c. β -Glucans
 - d. Galactosamine

I.C.E.™ Mode of Action:

I.C.E.™ Technology contains a natural osmolyte that helps cells to stay hydrated during water-related stress caused by high temperatures. A component of I.C.E.™ also works with heat shock proteins to help repair cellular proteins that can be damaged during times of high body temperature.

Figure 2. Effect of I.C.E.™ on Body Temperature



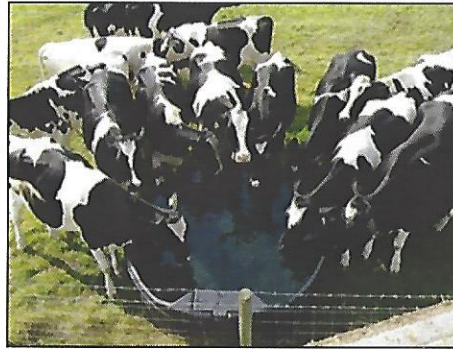
Source: Provimi/ Better Nature Research Center, Lavras, Brazil (2011)

Function of Organic Zinc:

Organic zinc differs from inorganic zinc because it is highly concentrated and very bioavailable, meaning the cow is able to consume a smaller package but with increased absorption efficiency. Zinc has been shown to help prevent lameness, which can be a result of heat stress brought on by acidosis. In addition Zinc provides support to the immune system and helps to repair the lining of the intestines, which often suffer damage during heat stress.

Yeast Culture Mechanism:

Yeast culture stimulates intake and digestion by increasing ruminal efficiency. Yeast culture improves dry matter and protein digestion and supports the production of volatile fatty acids; the building blocks for energy and milk fat. Improved rumen function leads to an increase in milk production and components.



Role of RFC:

Refined functional carbohydrates (RFC) play a role during times of heat stress because they bind to certain pathogens and toxins. During heat stress, the lining of the gut may be compromised, making a cow more susceptible to pathogens and toxins. In addition, RFCs, stimulate the immune system to be able to respond to challenges.

DIRECTIONS FOR USE

Feed FROST-Y to:

Lactating or dry cattle at a rate of two ounces (56 grams) per head per day

FROST-Y can be added to custom dairy meals or pellets. FROST-Y can also be added to the TMR or grist mix on the farm.

Benefits of FROST-Y

1. Keeps cells hydrated
2. Modulates body temperature
3. Repairs damaged proteins and cells
4. Prevents lameness
5. Improves ruminal efficiency
6. Drives dry matter intake
7. Supports the immune system
8. Increases milk production

For all of your dairy cattle's nutritional needs, contact:



FM Brown's has a trained team of nutritional consultants that are available to help formulate cost effective diets that will optimize cow performance and maintain a healthy gastrointestinal tract.