

DAIRYINFO

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Reducing Heat Stress in Dairy Cattle...

Heat stress takes a toll on dairy cattle almost every summer, with the impact continuing long after summer heat has past and the weather begins to cool. Beginning at temperatures around 75° F, cows have to use energy to cool themselves through heat loss via the skin and respiratory tract. High producing cows are the most sensitive to heat stress because of their high feed intake. Dry matter intake (DMI) starts to drop (8-12%) and milk production losses of 20-30% (which may exceed 10-25 lb/day) occur when temperatures exceed 90° F. It has been found that milk yield peaked at 9 lb more milk/day by cooled rather than non-cooled cows. This equates to more than 2000 lb/lactation when cows are cooled! Dry cows whose last 3 months of gestation occurred during hot weather also had calves with smaller birth weights and more metabolic problems after calving. They produced 12% less milk in the *next* lactation, and conception rates were lower due to less activity during estrus, reduced follicular activity, or early embryonic death.

Heat stress can result in sick cows that require prolonged care. It is associated with difficult births, heat exhaustion, fatty liver (fresh cows), mastitis, and adverse reactions to vaccinations leading to abortion and death. Reduced feed intake, followed by slug feeding when temperatures cool down can also cause acidosis, which is considered a major cause of laminitis. As ambient temperatures rise, the respiratory rate increases with panting progressing to open-mouth breathing. Lameness, with sole ulcers and white line disease may also appear in several weeks – to a few months – after heat stress occurs.

Water is critical in helping to alleviate heat stress. During times of high heat, water consumption will increase by as much as 50%. Beede (1992) showed that cows consumed about 3 lb water/lb of DMI with temperatures between 0-41° F, but reached 7 lb/lb DMI at high temperatures, with high producing cows capable of consuming 50 gal water/day. In order to encourage water consumption: (a) put waterers in the shade; (b) provide access to water right after milking; (c) provide at least 2 water locations/ group; (d) have a water supply that will provide at least 3-5 gal/minute (cows can consume 6 gal/hour); (e) maintain a minimum of 3 inches water depth; provide a minimum of 0.65 square feet of surface area/cow at each waterer; (f) keep water tanks clean; (g) monitor water temperature – cows prefer water at 70-86° F.

Shade is critical in helping to relieve heat stress. Heat-stressed cows will seek out shade, which they often will not leave to drink or eat, commonly standing rather than lying down and showing an evident increase in body temperature. Shade structures or pasture should be oriented north-south. Be sure to eliminate any wind block within 50 ft of the windward side of the structure. Each cow should be provided with 70-90 sq ft of shade and the facility needs to optimize natural ventilation as much as possible. Additionally, holding areas should have open sidewalls and ridge ventilation, and cows should be in the holding area no more than one hour/milking. The most common material used for shade is a woven polypropylene fabric, providing at least 80% shade. This material can be used for several years, if kept tight. Make sure cows under shade have adequate feed and water in order to gain the most benefit from shade.

And when it comes to cooling it is important to remember a couple of things: cool the holding pen near the parlor using fans and sprinklers to help reduce heat gain by the cows - cooled cows produce more milk than non-cooled cows! This may include placing banks of 36- or 48- inch fans about 8 ft off the ground and 6-8 ft apart, depending on pen width, and using sprinklers to wet the cows every 5-15 minutes. You might also consider putting shower nozzles on an electric eye as cows exit the parlor, encouraging them to eat after milking. Placing extra waterers in the barn or travel lanes (with adequate space/cow) is another potentially beneficial consideration.

Watch for more in the next edition!

(Edited from an article by Drs. Jones and Stallings, Dept. of Dairy Science, Virginia Tech; October 1999)



Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Call me! From calves to heifers, dry and lactating cows, my goal is to help you.

That's Renaissance's commitment!

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THE TEAM FOR RESULTS
SOLUTIONS FOR SUCCESS!

Thinking ahead...

In many locations, it will soon be time to start making hay or haylage (if you haven't already done so). Even though the corn harvest is months away, with much of this year's crop only recently planted, it is important to consider investing in a quality inoculant or preservative for your ensiled forages (yes, this also applies to haylage!). Using a research-tested inoculant or preservative is really an investment that can help maximize the quality of your forages until feedout.

Get the facts today! Plan ahead for the coming harvest this fall... before it arrives, and maximize your investment.

BIOCROP DRY ■ **BIOTAL PLUS II**
BUCHNERI 500 ■ **BUCHNERI 40788**
KEMLAC ■ **SILAGE INOCULANT II**
SILAGE SAVOR L PLUS
(also in **DRY** or **THROWABLE**)

Customer Relations & Farming!

Good relationships between agriculture and the general public have never been as critical as they are now. It has been said many times, that the average person in the USA is at-best two-to-three generations removed from the family farm (or any farm for that matter). This has led to a lot of misunderstanding and misinformation, which the media has magnified beyond any sense of the "real things." What many consumers have forgotten is that we all have to eat... and most of the ingredients in/for food products come from farms, along with a lot of hard work, sweat and sometimes tears. Consider "customer relations" for your farm. There are many ideas and models to look at in rural America... but you need one that "fits" your operation and ideals. Maybe it is as simple as inviting school children, 4-H and FFA members to visit your operation one afternoon... hosting a barbeque for non-farming neighbors, so they can appreciate first-hand all you have to offer...encouraging policy-makers to visit the farm, so they can better appreciate both your contributions and efforts... being involved in your local community. The possibilities are endless. However, the benefits might just make a difference that can positively impact all of agriculture.



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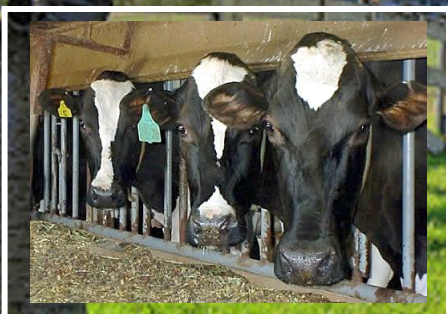


May 2011...

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CHECK IT OUT!