



NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

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BE PREPARED FOR HEAT STRESS IN DAIRY CALVES

During the heat-stress season, it is important to remember that young animals also suffer from the heat. Replacement heifers need some special attention this time of the year to keep them on the path to calving at 24 months of age or younger.

Dairy calves grow best when temperatures are in the 55-78°F. Temperatures above or below this range can cause growth to be affected in several ways. When temperatures go above 78°F, calves may not be able to adequately cool themselves, and feed intake and growth decreases. Heat stress is increased when temperature and humidity both increase significantly. Since feed intake can be decreased during heat stress it is important to feed highly fortified milk replacer, calf starter, and grower, along with good-quality forages to ensure adequate nutrition and avoid slowed growth rate as much as possible.

What happens to calves during heat stress?

- Body temperature increases, resulting in sluggish behavior
- Respiration rate increases, using extra energy as the calf attempts to cool itself
- Appetite decreases and feed intake will decrease
- Water loss increases through evaporation
- Negative changes occur in metabolic rate and hormones
- The immune system is suppressed, reducing the ability to fight off pathogens

The important signs of heat stress are:

- Reduced movement
- Faster breathing rates
- Open-mouthed panting
- Decreased feed intake, especially starter
- Increased water consumption

The three things that most affect the heat load on the calf are:

- Air temperature around the calf
- Relative humidity of the air around the calf
- Air movement around the calf

Management practices to reduce the effects of heat stress:

- Provide clean, cool (50-60°F.) water on a free-choice basis at all times. Generally, water intake increases when the temperature exceeds 77°F. Young calves need 3-6 gallons of fluids (water) per day to allow cooling and avoid further reduction in feed intake.
- Provide shade to avoid direct exposure to sunlight.
- Promote good air exchange. Naturally ventilated structures should have all vents completely opened. Hutches should have doors and vents opened and the back end may be elevated using wooden or concrete blocks to improve ventilation. There should also be enough space between hutches to allow good air circulation.
- Perform stressful activities such as dehorning, vaccinations, pen moves or transportation in the morning when environmental and calf body temperatures are at their lowest point for the day.

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NUTRITION NOTES (continued)

Feeding management practices that should accompany the above steps to reduce the effects of heat stress:

- Feed an excellent-quality milk replacer like Milk Formula™ to ensure nutrient intake. Consider feeding more milk replacer as calf starter intake may decrease or stall.
- Free choice a highly fortified/palatable calf starter such as Sweet Flakes and keep the starter fresh to provide dry matter for nutrients and to stimulate rumen development.
- Keep growth at 1.6-2.0 lb/day with good-quality forages and a well-fortified grower and developer such as Active Calf and Heifer completes, supplements, and minerals.