



HEAT STRESS

SUMMER PROBLEMS

HOT WEATHER

Air temperature as low as 72F can produce mild heat stress. As outside temperature increases cows will try to compensate by increasing blood flow near the skin surface, increase respiration and begin to sweat. These are the first physical changes a cow will make in an attempt to dissipate body heat.

HUMIDITY

Humidity compounds the problem of hot weather. Increased relative humidity slows the cooling effect of moisture evaporation from the cow's skin. For example, at 80F and 10% relative humidity, cows will not usually suffer from heat stress; at 80F and 100% relative humidity, cows will be in heavy stress.

DIRECT SUN

Cows in direct sunlight absorb tremendous amounts of solar energy which adds to the thermal load that she must dissipate.

REDUCED DRY MATTER INTAKE

In an effort to reduce digestion and metabolic heat production, cows reduce their dry matter intake even after short periods of mild heat stress. Reduction of 5% to 10% intake is not uncommon.

REDUCED CONCEPTION RATE

As dry matter intake goes down, there is a marked reduction in blood hormone concentrations, cortisol is a good example. This partially explains why conception rate drops during periods of heat stress. A reduction in uterine blood flow due to heat stress is another probable cause of lower fertility during hot summer months.

LOWER MILK PRODUCTION

Even under mild heat stress milk production will drop. Milk production decreases of 5 to 20% are not uncommon depending on the severity of heat stress.

LONG TERM HEALTH PROBLEMS

Increased occurrence of laminitis is common in cows that have suffered periods of severe heat stress. Laminitis (an incurable foot disease) will usually show up in October and November in years when heat stress was particularly severe.

SUMMER SOLUTIONS

HOT SPOTS

Look for hot areas in your operation. Anywhere cows do not have access to water, shade, good air movement or are crowded are potential trouble spots. For example, it is estimated that up to 50% of the heat load experienced by cows during periods of heat stress occurs in the holding pens and milking parlors.

VENTILATION

Open ridge vents, curtains and windows to provide as much air flow as possible.

FANS

Move as much air as possible around and over the cows. When in doubt add more fans. Air movement of 3 to 5 cows m.p.h. over and around the cows is best.

SPRINKLERS AND MISTING

The evaporative cooling effect of sprinklers and misters is greatly improved by good air movement over the cows.

SHADE

Provide at least 70 square feet of shade for each cow. Light colored roofs and walls will help reflect solar heat.

WATER

Water is the most important nutrient in managing heat stress. Water consumption during periods of heat stress can increase as much as 50%. Be sure that water is clean, cool, plentiful and easily available. Consider adding extra watering equipment during hot summer months.

FEEDING

Heat produced by digestion is at a maximum 4 to 5 hours after feeding. Feed early so that the maximum heat of digestion occurs before the maximum temperature of the day. Keep bunkers clean and free of moldy or spoiled feed.

FEED

Consider increasing nutrient density of the ration and choose easily digestible ingredients. Include Dairyman's Edge PRO® to help maintain dry matter intake.

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