

# MEAT GOAT MEMOS



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I have received several calls recently related to heat stress and resulting death loss in junior livestock project animals and goats. It appears we will be in for continued high temperature conditions for a while. Therefore, it appears to be a good idea to brief and remind livestock producers and junior exhibitors about heat stress in livestock.

Increased heat can have serious effects on livestock as they lose body water and essential minerals in the process of heat stress. Heat stress is simply overheating of the body. High temperatures and/or high humidity can bring about heat stress. We are accustomed to high humidity and temperatures here in Mississippi, but not to the extent that we have experienced over the past week. As these high temperatures continue, animals tend to lose sodium, chloride, water and important electrolytes from the body.

Animals experience heat stress much like humans. Signs of heat stress in livestock include rapid respiration, laying or standing with mouths open, and excessive salivation. Heat stress will adversely affect animal performance and can easily result in death of the animal if the situation is not corrected. Signs of heat stress include a decrease in growth performance in market animals and a decrease in milk production in dairy cattle. Other more noticeable signs are heavy breathing, increased water intake, decreased feed intake and poor reproductive performance.

Hot days and an occasionally cool night may create digestive upsets due to several days of minimal food consumption followed by a cool night of eating to excess. These abnormal feeding patterns may lead to unusual problems like acidosis or founder. The increased high humidity may lead to pneumonia or aggravate the lungs of animals that have had lung damage from a previous illness.

In most animals, a good comfort zone is normally between 32-86 F. As the temperature goes above this level, animals may begin to experience mild heat stress. As humidity brings the heat index to over 100 F. here in Mississippi, signs of heat stress increase rapidly. As long as it remains this hot outside, animals will experience some stress and their performance will decrease. However, there are ways that you can reduce the amount of stress on animals so that they have the opportunity to stay healthy and are able to maintain performance.

Sheep should be sheared and rams separated from ewes. Market steers, lambs, and goats being fed a high-energy diet should be fed during the cooler times of day in order to maintain their feed intake. Show animals can be rinsed off to cool their body temperature prior to feeding for maximum intake and minimum loss of performance.

High temperatures affect body function in many ways. The hypothalamus, lying at the base of the brain, is in charge of balancing the body's heat loss and gain by regulating respiration, skin temperature, sweating and muscle tone. For instance, cattle, sheep and goats get more relief from the heat by panting than by sweating, so rapid breathing is their primary form of cooling themselves. Panting and collapse are the most obvious signs of heat stress. In livestock, elevated rectal temperatures will indicate problems.

Overweight animals, just like humans, cannot exchange heat efficiently. Overcrowded animals can over exert themselves due to fighting for space and increased competition for resources. Older animals won't function as well as they once did, and very young animals have yet to reach a normal function level. Animals in poor health due to illness or parasites may not be able to adapt to increased stress from the heat.

Unventilated confinement, such as being locked in a poorly ventilated barn, crate or vehicle, can be a serious threat to an animal's life in a very short period of time. Proper ventilation in the areas where animals congregate or in compartments when hauling animals is important. If traveling in the hot weather, it is a good idea to stop often and wet the animals down with cool water or to provide bags of ice in the area to keep the inside temperature at a bearable level.

Water is the most important factor when it comes to animal production. It is not only important that animals have plenty of water during the heat, but that it is clean. Keep clean, fresh water available at all times. Keep the water in a shade and out of the direct sunlight. Animals will not drink hot water, and will not hydrate themselves properly if not given access to cool water.

A veterinarian should be consulted as soon as you see the first signs of heat stress. It is likely the animal may experience pain and swelling. Moderate to severe blood abnormalities, impaired kidney function, metabolic acidosis, and electrolyte imbalances are fairly common during heat stress. Since tissue destruction begins prior to death, prompt medical attention is a must. A veterinarian can administer drugs to treat and prevent most of these problems if contacted on a timely basis.

A few tips to follow to help prevent the problems related to heat stress are:

- Keep all housing areas well ventilated, either by opening the sides for air exchange and/or installing adequate fans.
- Provide animals with some shade, as they need protection from direct sunlight. If shade is available, chances are the animals will be smart enough to spend most of their time under the shade.
- Use a sprinkler system to help regulate body temperature. A combination of sprinklers and fans can significantly lower the temperature in an area. However, using sprinklers without fans tends to increase humidity and create additional stress.

- Fresh water should be available at all times and placed in a cool area of the barn or pasture. Consider filling kid pools or wading pools with water for smaller animals drink out of or lay in.
- Sheer goats and lambs to help reduce heat stress. Rams need to be sheared at least 60 days prior to breeding so they are more likely to be fertile.
- Keep the level of activity to a minimum, and if traveling with or working livestock, schedule the activity at night, early morning, or in the evening when the temperature is at the lowest.
- Design a feeding strategy that suits hot conditions. Consider feeding more at night rather than in the morning to shift heat fermentation to a cooler part of the day. The heat of digestion can place additional stress on the animal.
- Keep animals in holding pens for no more than an hour. The close proximity of the animals to each other increases heat stress.

Remember, the most frequent signs of heat stress in livestock include rapid respiration, laying or standing with mouths open with or without hanging tongues, and excessive salivation. Prevention is the best policy, but immediate treatment is a must when you discover heat stress conditions in an animal. A delay in treatment can result in death loss.