

Heat Stress Management

Last week's heat wave was hard on us all, especially our livestock and equine companions. Though we have all enjoyed a little relief, summer is far from over, and another heat wave is coming our way. So what can we do to manage heat stress in our animals? Here is a list of ways to recognize heat stress and manage it on your farm.

Know your species' limitations.

An animal's vulnerability to heat stress is dependent of too major factors: their ability to thermoregulate (can they sweat?) and their available lung capacity (can they breath?). Due to differences in their anatomy, some species are more prone to developing heat stress than others. For example, pigs have very few sweat glands on their body. Because of this, they are not able to decrease their body temperature through sweating. Cattle, like horses, are able to sweat, however, unlike horses, cattle have very small lung fields. This limitation decreases their lung capacity and ability to breath properly in high heat or heavy humidity. It is important for you to understand your species' limitations and be able to accommodate them when needed.

Below is a chart of different species, their limitations, and how to accommodate them.

| Species | Lung Capacity | Thermoregulation | Risk of Heat Stroke | Accommodation |
|----------|---------------|------------------|---------------------|--|
| Horses | Great | Great | Low | Decrease exercise exertion, provide lots of water and shade |
| Cattle | Poor | Great | Moderate | Provide lots of water and shade, put up fans and optimize ventilation in barn by opening windows or doors |
| Swine | Good | Poor | High | Provide lots of water and shade, put of fans and optimize ventilation, hose down or provide misters twice a day |
| Goats | Poor | Good | High | Provide lots of water and shade, put of fans and optimize ventilation, hose down or provide misters twice a day |
| Sheep | Poor | Poor | High | Provide lots of water and shade, put of fans and optimize ventilation, hose down or provide misters twice a day, shear heavily fleeced animals |
| Camelids | Good | Great | Moderate | Provide lots of water and shade, shear heavily fleeced animals |

Be able to recognize the early signs of heat stress.

It is important to know the signs of early heat stress to address the situation before it becomes too late. Every species and every individual can be a little different, however, these are the universal signs of heat stress in horses and livestock.

Seeking environmental relief - this may include attempting to stand in a small area of shade, entire herds standing under a tree, standing near or in the water tub, standing in a puddle, etc. This is an animal's first attempts to decrease their temperature by us using the environment. At this stage the animal is unable to regulate its body temperature on it's own and is becoming desperate for relief.



Not laying down - this may not be much of a concern for horses, because they can rest standing up, but our livestock lay down to rest. If you are seeing herds of cattle or flocks of sheep that will not lay down, it is likely because they are having trouble breathing. Standing increases the small amount of lung field that cattle, sheep, and goats have. So no matter how tired they may be, they will stand to better expand their lungs and breath more effectively. In this state, livestock are approaching respiratory distress.

Respiratory Distress - This is a dangerous point, your animal is having trouble breathing. They may be breathing very rapidly, open mouth breathing, drooling or foaming at the mouth. Their head and neck may be stretched out and extended. This will progress to laying flat out on the ground. Leading to possible coma and death.



Know how to take action!



If you see your livestock or horse showing early signs of heat stress, change their environment to accommodate their limitations. This may involve getting them to a covered or shaded area, putting up fans and opening windows to increase air flow, spraying them with water, or adding more water sources. Though these fast changes may be helpful for the immediate time being, it will be important to make permanent changes in the facilities to prevent future incidents of heat stress. Do not hesitate to reach out and

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ask your veterinarian to examine your facilities and give recommendations on how to better manage heat stress on your farm.

If you find an animal in the late stages of heat stress **CALL YOUR VETERINARIAN**. While waiting for the vet to arrive, get the animal in a upright or sternal position (sitting on their chest and stomach) to better open up their airway, hose them down with cold water, and put a fan on them. If available, pour rubbing alcohol on their backs, groin, and armpits. The alcohol bath will evaporate quickly and help cool them down faster. The goal is to cool them down and improve their breathing.

