



FLOWERDALE ESTATE ALPACAS

Health & Husbandry

Heat Stress In Llamas And Alpacas

Heat stress is a common occurrence for llamas and alpacas during the summer season. These animals originate from the Andes Mountains of South America, where high heat and humidity are not as common as in many areas of the United States. Llamas and alpacas are not adapted to handle these conditions, so it is critical to manage them in a way to protect them from heat stress. Heat stress can lead to poor growth, illness, and even death of the animal.

The key to combating heat stress is prevention. There are many practices to prevent llamas and alpacas from suffering the effects of heat stress. It is important to know when llamas and alpacas are most in danger for heat stress. Commonly used is the heat index, which is simply a formula to estimate the risk of heat stress. The Heat Index can be estimated by adding the temperature (F) and percent humidity (%). Typically, a heat index of less than 120 is safe, 120 to one 180 creates possible problems, and greater than 180 is the range where animals are in the most danger.

During the warmer months of the year there are many ways to keep your animals cool. Shade is an easy way to keep them from getting too hot. Under trees is a great place for them to relax and stay cool during the heat of the day. If there are no trees available, artificial shade can be provided by putting up temporary devices such as shade cloth. When using artificial shade such as tents, barns, shelters, etc you should try to recreate the "tree" effect. Trees are tall, allow nearly unlimited movement of air, and are broad. A tall roofed broad barn with excellent air flow through creates a cool, comfortable environment. Animals that are kept indoors are out of the sun, but it is important to keep good ventilation and air movement in the barn. Fans are a great way to keep the air moving and keep the animals cool.

Two issues should be considered when using fans: 1) barn ventilation, 2) animal ventilation.

Tunnel ventilation barns are the most desirable because the "tunnel effect" maximizes cooling of the air. Fans placed in series (e.g. all facing the same direction) can create this effect and cool the barn. Keeping several doors or windows open in the barn can also help create natural air movement and cooling throughout the barn. If available, having an air-conditioned room or area of the barn can help keep animals cool, or be used as a place to move animals that begin to show signs of heat stress.

Giving llamas and alpacas plenty of fresh water also helps prevent heat stress. There should be multiple sources of cool, clean water so all the animals have a place to drink. If possible, water should be kept in the shade. Electrolytes can also be placed in the water to replace those lost during sweating. Electrolytes should not be placed in all the water sources, as some animals may not like the taste and prefer to drink unflavored water.

Shearing is one of the most important ways to help llamas and alpacas keep themselves cool. The fibers work to trap the heat close to the animal's body, shearing helps the animal to lose heat through evaporation more effectively. If possible, shearing from head to toe (leaving about 1-3 inches of fiber on the body) is most effective, but barrel cuts (e.g. abdomen and thorax only) will help as well. Differences are observed amongst the various camelids (e.g. llama, suri alpaca, huacay alpaca, guanacoe, vocuna) with respect to tolerance of hot and cold.



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Proper management and husbandry can help prevent heat stress as well. If the animals need to be worked or handled for any reason, it should be done early in the morning in the coolest part of the day. Also, breeding to have crias born in the spring is important. Gestation and giving birth cause stress for the female, and during the warmer months can cause considerable heat stress. Crias born in the warmer months are often born weak and can become dehydrated soon after birth. Weaning should also take place during the cooler months, as it is a stressful time for both the cria and its mother.

The body condition of the animal also plays an important role in heat stress. Obese animals are more prone to the effects of the heat, so proper management of weight is a good way to help these animals cool themselves. Emaciated animals also have increased susceptibility to extremes of environment. Proper nutrition of the animals is also important. In particular, providing adequate selenium, vitamin E, copper, zinc, and B vitamins such as thiamine can increase tolerance of environmental extremes. Having water available for llamas and alpacas to wade or lay in can also help keep them cool. Streams and ponds in the pasture are a natural place for them to wade or even swim in. If these are not available, setting up baby pools can also provide an area for wading. Llamas and alpacas that lay in the water can have their fiber damaged in the areas that are under water so this alternative may not be useful when animals are to be shown or exhibited in other ways. Sand pits or concrete floors can also provide a place for the animals to lay and cool themselves. Wetting down sand pits or concrete floors throughout the day will provide a cool place for them to lie. Sand can also be better bedding than straw, as straw can trap heat under the animal and prevent ventilation.

Monitoring the animals is important during the summer months, and signs of heat stress can be observed early. Signs to watch for are nasal flaring, open-mouthed breathing, increased breathing rate and effort, drooling, depression or dullness, not eating feed, scrotal swelling in intact males, weakness, trembling, a rectal temperature greater than 104 degrees F, a heart rate over 90 beats per minute, or a respiratory rate over 40 breaths per minute. Taking temperatures often is a good way to learn what the normal temperatures of the animals are in the morning and afternoon, and helps the abnormal to be more easily recognized. It is important to monitor the animals and recognize the signs early, so that the problems can be dealt with before they progress to more serious signs.

Treatment of llamas and alpacas with heat stress should first be to cool the animal down. Calling a Veterinarian should be the first action at the onset of signs, but steps can be taken to help the animal while waiting for the Veterinarian to arrive. Hosing down the animal is one way to do this, but it must be hosed down all the way to the skin because moisture in the fiber and not on the skin will only act to trap more heat and make the condition worse. If possible, moving the animal to an air-conditioned room will help cool it down as well. Placing the animal in the shade or in water such as a stream, pond, or wading pool will also help cool the animal down. Dehydrated animals should drink plenty of water, but if their condition does not allow them to do so, they can be re-hydrated by IV fluids.

Shearing of animals suffering heat stress can also be helpful if it can be done in a way which does not further stress the animal and further complicate the problems. During the warmest months of the year, heat stress becomes common in llamas and alpacas throughout the country. However, with proper management and care, the effects and losses due to heat stress can be greatly reduced. Taking preventative measures toward keeping animals safe from the heat is the best way to deal with the heat during the summer.

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