

# Heat Stress in Alpacas

By

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**Heat Stress** is an issue in every part of the country, not just in the southern states. The key to managing heat stress is prevention and common sense. The owner controls 98% of their alpaca's destiny in heat stress.

We have never had a heat stress issue here at our ranch but we've helped rehab several alpacas that have been stabilized at their veterinarian's clinic and then brought here for the rest of their recovery.

During hot times of the year you need to check your alpacas several times during the day or have preventative things set up for them. It can get warm and humid even in the fall and spring months. It can be cool in the morning but turn hot by early afternoon. Prepare your farm or ranch to be ready for warm conditions. Have preventative measures set up if you aren't going to be home when the temps heat up during the day.

Especially be aware of the weather & the heat index when the alpacas are full fleeced. Make sure you have preventative solutions available for day and night during full fleece times.

- A pregnant dam that has a rapidly growing fetus generates a LOT of heat & will abort if she gets too hot. Select your birthing time so she's not in her last trimester in the hottest months. We start breeding our alpacas in February, continuing through late June if necessary.
- Young crias are growing fast & generate a lot of heat.
- Newborns don't have a good ability to regulate temperature and will need to be monitored.
- Males can become sterile. There are two types of cells in the testes. One cell type makes testosterone and is resistant to heat. The other makes sperm and is heat sensitive. Serious heat stress could possibly make them sterile. They would still have libido but no live sperm.
- Don't wean babies during hot summer months. Weaning can be a stressful time for both mom & cria.

- Animals that have had previous heat stress need to be monitored closely each year – they can be more susceptible than others.

Animals transported from cooler parts of the country can experience heat issues when dealing with their first summer conditions in a warmer climate. It is best to transport these alpacas in late fall or during the winter months so they don't arrive during the warmer time of the year. And be aware their first summer can be more difficult on them than for animals that have been more acclimated to the warmer climates.

The heating and cooling system of an alpaca is through their ventral window. This area is located low on the chest, between the front legs, under the stomach, between the back legs and up to the rectal area under the tail. This is the area of the body that allows an alpaca to keep cool.

### **Heat Index For Alpacas**

**(Source: Llama/Alpaca Field Manual by DR. C. Norman Evans DVM)**

Calculate Heat Index - temperature (F) + Humidity = Heat Index

Some examples are:

- 95 degrees + 25% humidity = 120 heat index
- 98 degrees + 30% humidity = 128 heat index
- 98 degrees + 50% humidity = 148 heat index
- 88 degrees + 40% humidity = 128 heat index

Guideline to determine the risk for *heat stress* in alpacas:

Less than 120 - No problems, all should be comfortable. Minimal risk.

120 to 160 ----- Possible problems. Have prevention measures in place.

160 to 180 ----- Heat Stress is very likely. Do your prevention protocols.

180 + ----- High Risk / Critical. Be sure your heat stress prevention protocols are in place and working. Watch the herd, you may need to take additional measures.

Each animal reacts to heat stress differently, so know your animals and their mannerisms. Checking temperatures with a rectal thermometer is best. If you have bio-thermal microchips in their ears – they will sometimes read about 1 degree cooler than the rectal temp.

Normal Body Temperatures:

- Adults - range from 99 – 102.5 F.
- Crias – range from 99 – 101F.

## **Symptoms / Signs of Heat Stress. Dehydration & Heat Stroke**

- Increased respiratory rate.
- Panting and the nose flares with each inhalation.
- Lying down on their side with their feet out.
- Cushed and they don't or can't get up.
- General depression.
- Breathing with their mouth slightly open.  
(If you see mouth breathing, panting and nostrils flaring— you need to act quickly & help them cool down!)
- Lying down with legs in front & breathing heavy.
- Dry and cracked lips.
- Lethargic
- Drooling
- Stumbling or having difficulty walking or walking in a stiff manner.

(Some of these symptoms are at different levels of heat stress. Take action when you first see symptoms and monitor closely for several days after seeing any of these symptoms. You may want to contact your veterinarian.)

## **What do you do when you see symptoms / signs of heat stress?**

- Take their temperature.
- Spray water on their ventral window area and get them in front of a fan. Don't spray water on their back.
- Offer them water with electrolytes or give some with a dosing syringe.
- You can spray alcohol on their bellies to help cool them quickly.
- Contact your Veterinarian if symptoms are severe.
- For dehydration, check the skin under the back legs. Gently pinch a fold of skin; if it retracts back quickly they are ok. If the skin stays out, they are dehydrated & need veterinary assistance.
- Depending on the level of heat stress, you can put them in a kiddie pool with clean water to help cool them down.
- Be careful giving Banamine - use half dose so you don't compromise their kidneys if they are dehydrated. Contact your veterinarian for advice & dosage.

## **Prevention, Prevention, Prevention!**

- Give a Bo-Se injection sub-Q once a month starting at the beginning of the summer through the end of summer. *This information about Bo-Se was given to us and many other ranches in 2013 by Texas DVM, Dr. Ben Buchanan at the Brazos Valley Equine Hospital. Giving Bo-Se has helped many alpacas handle the heat better and has prevented heat stress issues!* Here are the details: **Bo-Se** is a Vitamin E & Selenium mix. It is mostly Vit. E, which is what the alpacas need the most. The selenium is low enough that a once a month dosage won't do any harm. NOTE: Only give the dosage Dr. Buchanan suggests, never give more than two injections in a month so you don't build up too much selenium or otherwise give as directed by your local veterinarian. You can get Bo-Se from your veterinarian. You can also get it at some local feed stores or Valley Vet on-line, BUT you'll need a prescription, which your veterinarian can give you. NOTE: There is another brand of Vitamin E & Selenium but the dosage would be different. Dr. Buchanan recommends Bo-Se and it's less expensive than the other brand too.

### Bo-Se Dosage per Dr. Ben Buchanan:

- **Adults & crias over 3 months old** - 2cc Bo-Se per 100 lbs. injected sub-Q
- **Crias under 3 months old**- .50 cc Bo-Se sub-Q

(Here in Texas we give a Bo-Se injection starting after shearing and then once a month through Sept.)

- Provide shelter all year – the weather changes quickly. (Even though their fiber repels some water, getting soaked from rain on a warm day is like wearing a wet sweater and they can overheat quickly, especially if the sun comes back out.) The fiber can be like insulation holding the body heat in with no escape.
- Shear at the appropriate time of the year to get their fur coats off before the high temps start. Here in Texas we shear the first part of April. We have found, over the years, this is the best time for us since it starts getting warm the end of March. It's still hard to know what the weather is going to be like....

*Extreme cold weather after shearing.....  
something else to consider at shearing time.*

What happens if the weather changes and the temperatures drop after they've been shorn?

One year we had a cold front that blew in the day after shearing and dropped temps into the high 20's that night. We had lots of cria coats and one adult coat available. Even though we had the barn floor covered in hay, we could see several animals starting to shiver. Since shearing is booked several months in advance we had to be prepared since we knew the cold front was coming.

We bought bolts of flannel material & polar fleece material. This material was used to wrap around the barrel part of their body covering the belly, leaving a flap of material in the front of the chest (cut out the shape of a cria coat).

Next we secured the material with duct tape wrapped totally around the barrel (not tight) and also taped the material flap in front of the chest. This kept the material secure so it wouldn't slip off. All the animals were comfortable that night and no one was shivering.

The next day, we took the coats off when the temps got warmer and reused our hand-made coats several nights later. It's a good idea to label each coat with a magic marker the size of the coats for future use. Or make all adult coats one color and weanling size another color, etc. At least we are now prepared if cold weather happens again after shearing. You never know about Texas weather!

- Evaporative cooling fans are great, especially if the humidity is low. If the humidity is high just turn on the fan without the water pump – you don't need to add more humidity in the air. When it gets really hot here, our humidity goes down and the water pumps are turned on. It feels like air - conditioning when you stand in front of these fans - they work great!

*We like these brands:* Porta Cool & Quiet Cool. You can find Porta Cool at Tractor Supply & Northern Tool Stores. The 36" size is a good size for most barns. We have two 48" size fans and two 36" size fans in our barn which makes it very comfortable. The alpacas will come in when they need to sit in front of their fans. Secure these big fans so a big gust of wind can't blow them over.

- Other Fans – Heavy-duty industrial fans are best ----- barrel fans, oscillating fans on a stand and fans that can be hung on the wall or fence in the barn. (Sam's Club has several good ones.) Air circulation makes a big difference in how the area is cooled down. Place the fans low if possible so the alpacas that are cushed can benefit from the ground area being cooled. Alpacas will rub up against things, so secure all fans so they don't fall over. Keep the dirt & fiber off the fans using a broom or brush.
- Heat Index – Know what this is each day and have your ranch or farm heat stress protocols in place.
- Electrolytes in the water - We are testing an electrolyte mix for a lab but it's not on the market yet. It even has some probiotics in it. Check the website: [www.alpacasALLnaturale.com](http://www.alpacasALLnaturale.com) for a coming-soon alpaca/llama electrolyte without fillers and is all-natural. You can also use Gatorade powder – ¼ cup of dry powder to a 5-gallon bucket (change daily). Several people have told me alpacas like the Lemon lime flavor but ours really like the new all-natural electrolyte we are testing on our herd & it has better ingredients.
- Cool water – change water daily and have the buckets in the shade. Frozen plastic water bottles can be floated to help cool the water. Having multiple water sources available is very important; some alpacas will hog a water source, not allowing others to drink. If you have automatic water containers, place them so the water hose and container are in the shade. The water in the hose will be hot if it's in the sun. We get our automatic water containers at [www.horse.com](http://www.horse.com)
- Automatic Sprinklers – set the water on low so the sprinklers won't spray up too high & get their fleece wet on top of the back. A good height is not more than 1 ½ feet. They will sit on the sprinkler or stand above it. Move it to a different spot every day to help water your pastures. You can find a good small sprinkler at Walmart. It's bright yellow & round, made of a heavy metal (they can't pick it up & move it or turn it over). It sprays a small fountain of water. You can adjust the water spray height at the faucet. We have automatic timers on the faucet that are set for 20 minutes every hour starting at 11:00 AM.

- Re-shearing the ventral window area a few months after shearing. Using dog grooming clippers, we re-shear belly areas in the July / August time frame depending on when it starts getting really hot. Some summers we shear the ventral window area again in October. It is amazing how much fiber they will grow back in a few months after shearing the first of April.

*Dog grooming clippers work perfect* for this & are used while the alpaca is standing. These clippers don't make a loud noise and are easy to work with. The alpacas handle this process pretty good and you can shear a belly in 5 to 10 minutes depending on how well they behave.

#### Our helpful tips when using the clippers:

1. Tell your alpaca what you are going to do before you start (this really does help).
2. I start on the alpaca's right side; my hip is against their back hip.
3. With your hand, gently touch them in the area where you are going to start. This will help you know how they are going to react before starting with the clippers.
4. I start on the belly just behind their right front leg. There's not too much fiber in that area. I shear toward the back legs. Then shear the other direction toward the front legs to get more fiber off. Continue with another row as you go down under the belly, then switch sides.
5. Shear the belly & a little up the side. (When you look at your alpaca from the front or side, you can't tell that you've sheared any of these areas – so they are ok for the show ring later in the year.) Shear the area on the low part of the chest. There is a callus area on the bottom of the chest between the front legs– that is normal, just be careful shearing in that area, the callus area is a sensitive spot.
6. Shear under the tail and around the private parts, especially on the males. That's a lot of warm fiber back there – shearing this area will keep the testicles cooler.
7. Use Distress Remedy if they are nervous and take some yourself if you need to.
8. Be careful in the armpit areas so you don't snag skin, shear away instead of toward the armpit.
9. Blades get hot, turn them off when not using and change blades when they get too hot. Rem Oil will cool them off but not enough to keep using the same blade. I usually change blades when I switch sides.

10. Use a tile grout brush to clean the hair out of the blades & clippers between animals.
11. Keep equipment clean, blades oiled and store in a covered container.

Grooming equipment we recommend:

- Andis model #AGP grooming clippers.
- Find good refurbished clippers from Sauls Sharpening – contact Layne Sauls (281) 785-5653  
[sauls\\_layne@yahoo.com](mailto:sauls_layne@yahoo.com)
- Andis Ultra-edge (full tooth) blades #7F are the best blades.  
[www.kingwholesale.com](http://www.kingwholesale.com) is a good source for blades.
- Best place to send clippers for repair or blades for sharpening: Sauls Sharpening / (281) 785-5653  
[sauls\\_layne@yahoo.com](mailto:sauls_layne@yahoo.com)  
(Blades are sharpened correctly, quickly returned and cost about \$5.00 per blade.)
- Rem Oil spray (get at Walmart) – keeps the blade cooler and working good.
- Tile grout brush – get at Home Depot or Lowe's in the flooring department.
- Covered container to store blades & clippers in.

***Keeping the fiber off the ventral window area & giving Bo-Se injections are two important ways to prevent heat stress in the hot months of the summer. Doing this has saved the lives of many alpacas.***

- Hay that is high quality with proper TDN and protein levels will also help prevent heat stress.
- Feed grain in the late evening and early morning since the activity of digestion can raise the body temperature. We have our feed milled locally and they add kelp to our feed during the summer. This can help lower the body temperature by one degree. Every little bit helps.

- Cool the barn floor. We have a dirt barn floor and will spray water over the area to cut down on the dust and it helps make the ground cooler. Another part of the barn has Stall Skins installed on the dirt floor. The Stall Skins allow the urine to penetrate through to a leach pit or French drain. These are great in the summer especially when a lot of alpacas are in the barn in front of the fans. No more urine potholes and the poop piles aren't a mucky mess.  
Stall Skin distributor: [www.MountainDreamAlpacas.com](http://www.MountainDreamAlpacas.com)

### **What do you do if you have an alpaca get heat stress?**

Call your veterinarian and get some advice. There are many things that can be done to save them if you act quickly.

#### **Natural Remedies & Therapies:**

These can help with heat stress symptoms and can compliment what your veterinarian is doing during rehab situations:

*Essences come in liquid form. They can be given orally, put in water buckets or add drops on the feed. If the animal is down, put some in your hand & rub some on the pads of the feet and inside the ears- the skin will absorb the remedy. You can use up to 7 essences together. Here are a few remedies that can help:*

- Distress Remedy – Is a homeopathic flower medicine that provides relief for minor accidents, injuries & bruises; pain & inflammation; & emotional upset due to physical trauma.
- Animal Restore Essence – used to help restore vitality during periods of recuperation. It also helps restore the spirit.
- Forest Secrets Essence – used to help with feeling disoriented and unfocused. It helps realign and bring you back to your-self feeling reconnected. Especially good for heat stress.
- Animal Rescue Essence – Calms and comforts. Easing trauma & stress. It supports healing action of other essences, as well as medicines and homeopathic remedies.

*Homeopathic remedies can work great. It is best to contact a homeopathic veterinarian or a holistic practitioner for advice to match the right remedy for each case. These are a few homeopathic remedies that have been used for heat stress but contact a professional to determine which one is best:*

- Aconite 30c homeopathic remedy– consider this remedy first. Symptom of anxiety is usually strong when this remedy is needed. They will be restless & fearful.
- Belladonna 30c homeopathic remedy – restlessness is more violent compared to the anxiousness of the Aconite remedy symptoms. Animal is weak & may even collapse. Ears & gums are usually red, the pupils may be dilated.
- Gelsemium 30c homeopathic remedy – symptoms of weakness, dizzy, point of collapse. Their muscles often tremble from the weakness. The skin may alternate between flushes of heat & cold & clammy.
- Glonoinum 30c homeopathic remedy – gums may alternate between paleness & redness, possibly with a bluish cast. Jaws are clenched together. Elevated heart rate. Weakness & irritability.
- Natrum Carbonicum 30c homeopathic remedy – This remedy may be more effective for animals that become sick due to over sensitiveness to sun heat rather than those who become overheated. These animals are constitutionally averse to the sun & hot conditions.
- Selenium 30c homeopathic remedy – This mineral is necessary for muscle function and strength. Similarly, the homeopathic remedy made from this mineral is useful for weakness and debility. Any heat increases this debility. This remedy is useful for animals that are extremely sensitive to overheating, especially indicated in older animals. Only use when needed.

*Note: Always consult with your veterinarian when you have a sick animal or one showing signs of heat stress. This article and the products & therapies mentioned are not intended to replace the advice of your veterinarian and are not intended to diagnose, treat or cure any animal. We have found that the products & therapies mentioned in this article have worked for us in caring for alpacas and they complement the veterinarian's care. These protocols have worked for us in the prevention of heat stress in our herd. Our goal is to give information that will help other farmers & ranchers with their alpacas.*

*The safe and proper use of any natural or holistic product,  
even medication from the feed store or  
from your veterinarian is the sole responsibility of the user.  
Be smart and read all the labels & directions.*

***Prevention is the key to heat stress issues.***

Many of the products mentioned in this article can be purchased at  
[www.alpacasALLnaturale.com](http://www.alpacasALLnaturale.com)

For consultations:

Call Candace at (936) 825-6552

Email: [candace@MountainDreamAlpacas.com](mailto:candace@MountainDreamAlpacas.com)