

# Hot, hazy, and humid

Horses need proper attention to beat the heat during summer months

by Robin Stanback

**T**HE dog days of summer are often not the most pleasant of times for any living creature. Earlier this month the National Weather Service projected afternoon highs in Central Kentucky to be in the mid-90° range.

The combined effect of that temperature and the local humidity put the heat index, the temperature the human body feels when the two are combined, between 100° and 105°.

In Ocala, the heat index was more than 110° for the same period. People were cautioned to keep hydrated, take frequent breaks from the sun and heat, and to avoid overexertion. That advice works for horses, too.

Hydration is one of the most important factors in helping to keep horses cool.

An adult horse needs about one gallon of water per 100 pounds of weight per day. When temperatures rise above 70°, an adult horse that is regularly exercised can drink 20 to 25 gallons of water a day.

Research conducted at the University of Georgia by Sharon Crowell-Davis, D.V.M., a board-certified animal behaviorist, indicates that horses at pasture may not drink more water than usual, but they will drink

more frequently as ambient temperatures increase. Without adequate water, horses will become dehydrated, causing mineral imbalances that can put their health at risk.

Another important component in keeping horses comfortable in hot weather is giving them a break from the sun.

Sarah Ralston, V.M.D., Ph.D., an associate professor in the Department of Animal Science at Rutgers University, cautions horse owners to use common sense.

"Horses always need clean, fresh water, and, when it gets very hot and humid, horses need to have access to shade—either trees or run-in sheds," Ralston said. "They will seek out both as they need it."

That approach works well for horses at pasture. Most horsemen know the dangers of overworking a horse in hot weather, and watch for signs of excessive sweating and high respiration rates that indicate distress.

There are other situations that can also put a horse in danger. Late summer days

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#### STAY COOL

With the heat and humidity of the summer months comes the need for horses to cool off either by seeking shade themselves or with the help of their handlers, who can hose cool water on a horse to pull the internal heat out

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# VETERINARY SPOTLIGHT

**WARM WEATHER** from page 26  
are often the time when many farms

choose to wean foals, build muscle on sales yearlings, and transport these young horses to different farms

and sales venues. These activities create stresses that, when combined with heat and humidity, can cause serious problems.

Thermoregulation, the ability of the animal to transport heat from the body's core to the surface of the skin and blood vessels, can be disrupted by high temperatures and humidity, leaving the animal unable to cool itself.

Stressed horses may telegraph this heat intolerance more subtly than do horses suffering from heat-related problems resulting from exercise.

Excessive sweating, muscle tremors or spasms, and a staggering

## How to keep horses comfortable in hot weather

- Keep horses hydrated—experts recommend one gallon of water per 100 pounds per day;
- Give horses a break from sun;
- Minimize stressful tasks and activities, such as weaning and transporting;
- Put horses in an area that offers circulating air; and
- Hose horses with water, scrape off excess water to help cooling process, repeat often.

gait are common symptoms of a horse that is suffering from heat exhaustion after exercise. A horse suffering heat-related problems due to stress or lack of shelter and water

may show signs of lethargy. While that attitude may seem understandable in very hot weather, it might also be the harbinger of a serious condition requiring immediate attention.

"Horses should sweat if it is really, really hot outside," Ralston said. "They should have sweat behind their elbows [and] between their legs. If it isn't there, the horse could be having a problem. Also, look for an elevated respiration rate. The horse may look as if it is panting through the nose. They may have a faraway look in their eye, not focusing on anything in particular. They can also stop eating."

### Treatment plan

The first step to treating a horse suffering from heat-related problems is to get it out of the sun or enclosed environment such as a horse trailer.

"The horse needs shade and circulating air if possible," Ralston said. "Next, get a hose, and hose the horse off. Scrape that water off the horse, and hose it again. This process can be repeated until the water helps to cool the skin surface. Do not put a wet towel over the horse. That will help to hold heat in. Just keep the water going over it. As the water hits the skin, it will pull the heat out."

"When you scrape the warmed water off and put cooler water back onto the horse, it will help to bring the horse's body temperature down. You can offer the horse water to drink. Not a great deal all at once, but a little bit at a time, and that water should not be terribly cold. It needs to be at an ambient temperature. If you have access to a fan and can get the horse in front of it, that will help, too."

While some believe the water used to bathe the horse should be cool as opposed to cold, research by Jonathan Foreman, D.V.M., M.S., on the effects of heat stress on horses at the University of Illinois found that ice-cold water is safe to use and will not cause the horse to tie up.

"If your hand holding the sponge isn't numb after applying two buckets of water, the water isn't cold enough," Foreman said. "One of the key things is to scrape the water off frequently so that it doesn't just sit there like a hot, insulating blanket."

Managing horses in high heat and humidity requires planning and vigilance. Whether foals are weaned in stalls by themselves or left in paddocks to commiserate with other young horses, weaning is stressful.

In years past, many horse owners would pick a date on the calendar as the right time to wean foals. If done on a day when heat and humidity combine to put the heat index at a dangerous level, weanlings can be at risk for heat exhaustion. Water consumption should be monitored even more carefully for freshly weaned young horses and, if at all possible, farm managers should watch the weather reports for the best conditions and choose a day that will offer the coolest temperatures.

"Yearlings we are preparing for the sales go out to pasture at 7 p.m. and are brought back up into the barn at 6 a.m.," said John Hall, yearling manager at Taylor Made Farm in Nicholasville, Kentucky. "This is to keep them out of the sun, more to protect their coats from fading than to keep them from getting too hot. But, once they are in the stalls, we have fans on every door, and we make certain they have plenty of clean

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## VETERINARY SPOTLIGHT

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water in front of them all the time. We do not work these young horses in the heat of the day, and we watch them carefully to make certain they cool out well."

### Airflow

Barn ventilation is extremely important for horses kept in stalls. Windows and doors should be kept open and fans over the stalls can help keep air circulating. Some farms use misters in conjunction with fans, but when humidity levels are high, these may not be advantageous.

Ventilation is equally as important to horses being transported in trailers and vans. Vehicles parked in direct sunlight can see internal

temperatures rise alarmingly even on mild days. A study done at Stanford University in Palo Alto, California, in 2005 showed that within 60 minutes of being left in the sun, a car's interior could rise in temperature from 71° to 116.6°. While a horse trailer is never going to be as tightly sealed as a car, it too will be affected by the sun's rays.

"Airflow is so important to horses being trailered, especially in the heat," Ralston said. "Good ventilation is essential while the trailer is moving. If you have to stop for any length of time, open every window and, as long as the horses are safely confined, open any doors that you can to increase airflow."

Ralston recommends that horses being transported over long distances

should have the opportunity to rest and have fresh water offered to them every two or three hours.

"It is stressful for horses to be trailered," Ralston said. "Stopping gives them a break from constantly balancing their weight. They should be allowed an opportunity to drink and they should be given fresh hay, too."

Carolyn Stull, M.S., Ph.D., a researcher at the University of California-Davis, has found heat stress will affect the health of younger horses more than mature, healthy horses. She also discovered that travel-stressed horses were more susceptible to illnesses as their immune systems are compromised. Combine those findings with heat stress, and the results are a recipe for a sick young horse.

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## Horse feed and humidity not a good combination

HORSE FEEDS and some supplements are as susceptible, if not more so, to heat and humidity than the animals for which they are intended.

Molds and mycotoxins, a toxic byproduct of mold that can cause serious problems for horses, can proliferate in stored feed at temperatures as low as 45°, but reach maximum growth potential at temperatures over 75°. Humidity increases the chances that molds and mycotoxins will form in feed bags.

Proper storage and feeding practices can help farm owners and managers be assured of feeding the best and safest foods to their horses.

"There are some very important ways to protect your feed from spoilage—keep it in a well-ventilated area, out of direct sunlight, and keep that area clean," said Randy Cotton, who owns Quality Feeds in Versailles, Kentucky, with his wife, Margie. "Feeds, especially those that are high in fat or have molasses in them, need to be kept as dry as possible. Airflow helps that. So, if your feed room has a window, keep it open, but make certain that it has rat wire to keep the area rodent-free."

Storing feed on wooden pallets as opposed to stacking it on concrete floors is also a safe practice.

"Wood breathes better," Cotton said. "It contracts and expands. Cement sweats. If you can store the feed on a wooden pallet that allows air to flow under the bags, that is even better."

"Lots of people want to empty feed bags into storage containers, but those containers, either plastic or galvanized steel like a garbage can, can hold moisture in and restrict airflow," Margie Cotton said. "It is really best to leave the feed in the bags it came in, and feed one bag at a time. If you spill some feed as you are taking it out of the bag, clean all of it up. Loose feed can attract rodents."

### Other methods

There are ways to alleviate some of the problems associated with heat stress and trailering.

Placing a thermometer inside the horse's compartment in the trailer will allow handlers to know the actual temperature affecting the horse. If that temperature exceeds the thermal comfort range for horses, deemed to be between 30° and 75°, the horse may need extra attention in the form of more frequent stops and water of-



Cynthia McFarland photo

### PROPER STORAGE

Plenty of precautions should be implemented for storage of horse feed, which is extremely susceptible to heat and humidity

Purchasing feeds in smaller batches is a recommended practice, especially in hot weather. While some feed companies date their feed bags, not all do.

Randy Cotton recommends talking to the feed supplier about the freshness of the feed being purchased, and only buying enough to last two weeks at a time.

"It is very important to watch the feed bag rotation in the feed room," he said. "Feed all the old feed before switching to the newer bags being delivered. It is easy to get lazy and miss a bag. Then, if supplies get low, you might open a bag that has been there for a while. The feed in that bag might not be safe to give to your horses. Always rotate the feed."

Finally, Cotton stresses that people feeding horses should make a habit of smelling what they are offering to their horses. Just like good hay, good feed has a fresh smell. Cotton believes that people who make a practice of smelling every bag of feed they open can develop a nose for molds.

"If you smell something that just isn't right, you know not to feed that bag of feed," he said. "It is better to throw it away than risk putting the horse off his feed or having it develop colic or diarrhea."—Robin Stanback

ferings, and possibly unloading the horse to give it a bath in cool water.

Ralston favors light-colored trailers over darker ones because they absorb less heat from the sun. She also recommends hauling horses in the evening hours when possible and stopping the trailer in the shade of a tree or building if a stop must be made during daylight hours.

"If you pull into a truck stop on boiling tarmac in the hot sun, the trailer is going to get hot fast," she said. "Use common sense. In that situation it would be better not to stop, certainly not to stay for any length of time."

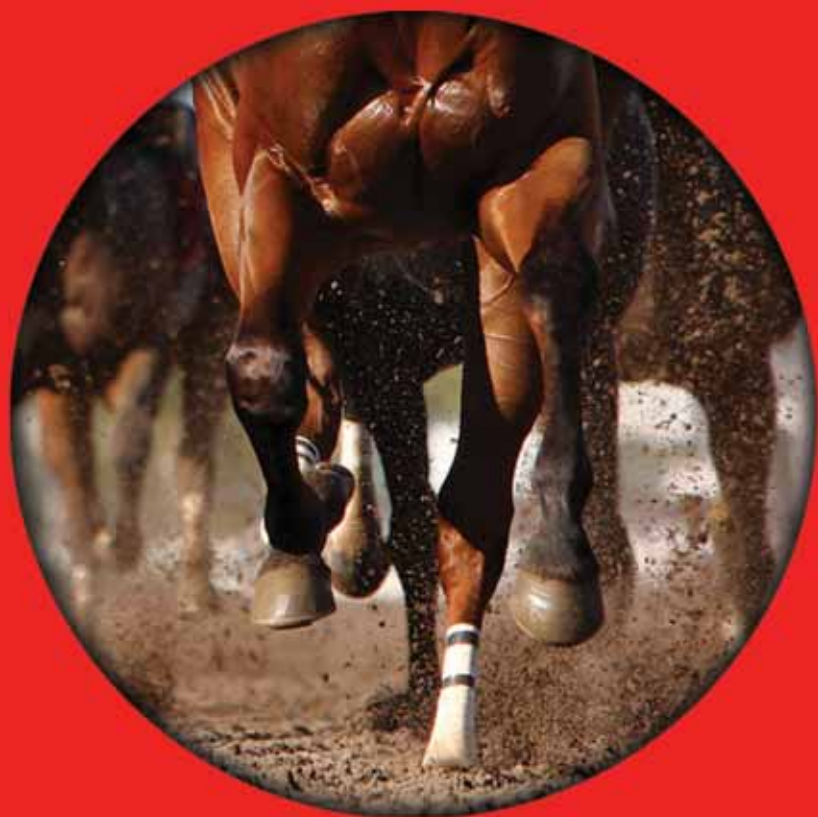
Healthy horses are capable of adjusting their own internal thermometers fairly easily when air temperatures are between 30° and 75°. Horses will find shade if it is available, change their behavior, or move. They sweat and dilate or constrict blood vessels. When temperatures soar above 75° and combine with humidity to push the heat index even higher, horses need extra attention to maintain their health and comfort.

Knowing the ambient temperature of the horse's environment is the first step to a heightened awareness of potential problems. Horse owners or caretakers also should be aware of their animal's at-rest temperature, pulse, and respiration rates so that significant changes in them can be used to determine the horse's degree of stress.

An attentive caretaker can catch the earliest signs of stress and head off the serious dangers that can come when heat and humidity combine to send temperatures soaring. ➤



Robin Stanback is a freelance writer based in Versailles, Kentucky.



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