



## Caring for horses during hot weather

### Quick facts

- Provide shade, airflow (e.g. fans) and free access to clean water during hot weather.
- Avoid riding your horse when the air temperature and relative humidity combined exceed 150.
- To cool an overheated horse, repeatedly sponge it with cool water and scrape it off right away. Repeat this until the horse is cool. If near a water source, spray the horse continuously with cool water, making sure to scrape off any excess water when finished.
- Contact your veterinarian right away if you suspect your horse is having a heat stroke.
- Hot weather can bring diseases like West Nile Virus and Potomac Horse Fever.

You must provide extra care to your horse during hot weather to:

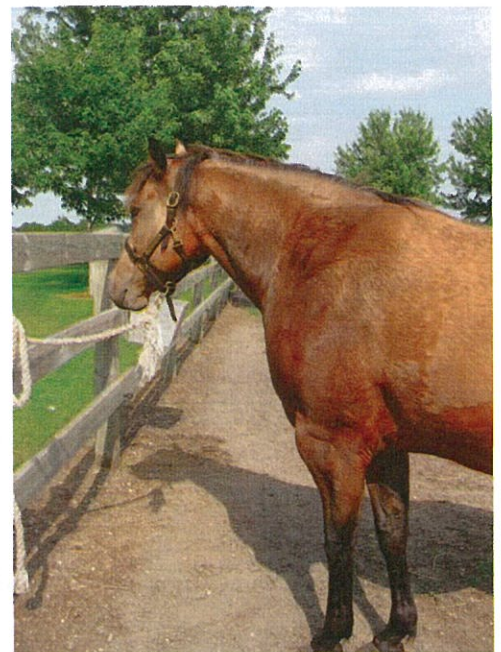
- Reduce their stress
- Maintain their health
- Maintain their well-being

### Sweating, natural cooling

Horses normally cool themselves by sweating. The sweat evaporates from the skin surface and causes a cooling effect. Less sweat evaporates during times of high humidity. Table 1 shows how air temperature and relative humidity affect the horse's ability to cool itself. Horses can acclimate to hot and humid weather conditions; however, the below guidelines can help reduce (or avoid) heat stress in horses.

A horse that is working hard in a hot environment can lose 2 to 4 gallons of sweat per hour.

**Table 1. How air temperature and relative humidity affect horse cooling**



Horses naturally cool themselves by sweating.

Air temperature (F) + Relative humidity (%)	Horse cooling efficiency
Less than 130	Most effective

Air temperature (F) + Relative humidity (%)	Horse cooling efficiency
130–150	Decreased
Greater than 150	Greatly reduced
Greater than 180	Condition can be fatal if the horse is stressed

## Keeping your horse cool

Overheating can result from the following:

- Hot weather
- High humidity
- Poor barn ventilation
- Prolonged exposure to direct sunlight
- Excessive work
- Transportation
- Obesity

Summer is a common time for heat-related issues but unexpected warm weather can add to overheating, especially if horses are out of shape and have long, thick coats. Here are some tips to keep your horse cool and comfortable during hot weather.

### Provide free access to clean water

Always provide unlimited access to clean, cool (45 to 64 F) water. At rest, an adult horse in a cool climate will drink about 6 to 10 gallons of water daily depending on feed. They'll drink much more while working or in hot conditions. A horse's stomach can hold between 2 to 4 gallons of fluid without becoming over distended.

Allowing a hot horse a few swallows of cool, fresh water every few minutes is key to combat the effects of heat stress.

Clean water buckets and tanks more often in hot weather to prevent algae and bacteria from growing. Blue algae toxicity is more common in ponds or slow running streams during hot, dry weather.

### Reduce ride time and intensity

Heat stress can affect any horse but is especially common in older, obese and out of shape horses. Young foals tend to be more prone to heat stress and dehydration.

Avoid riding a horse when the combined temperature and relative humidity surpass 150 (Table 1). If you must ride a horse in hot and humid weather, or you live in an area where hot and humid weather is common, it's key to:

- Adjust your schedule (ride early in the morning or late at night).
- Keep the work light and include frequent breaks that allow the horse to cool down and regain a normal breathing rate. Don't work the horse beyond its fitness level.
- Watch for normal sweating.
- Create airflow (use fans) and work the horse in shade when possible.
- Provide access to cool, clean water at all times and offer water frequently during work. There's no reason to withhold water from a hot horse.
- Call a veterinarian right away if your horse stops producing sweat; breathes heavily; or becomes lethargic, distressed or uncoordinated.

### Provide relief from the sun



Shade from trees or buildings will provide your horses relief from the sun. Be aware that the shade will change throughout the day and buildings may block natural air flow.

Watch for signs of sunburn, especially on white or light-colored areas. In addition to shade, masks can help protect your horse from sunburns.

### Consider electrolytes

Consider providing electrolytes to horses that have been sweating heavily or you expect to do so. If you add electrolytes to drinking water, also offer plain water. Some horses don't like the taste of electrolytes and will drink less. Only use electrolytes formulated for horses.

### Additional tips

- Provide turnout during cooler times of the day (early morning, late at night or overnight).
- Use fans to improve airflow. Keep the cords and plugs out of the horse's reach to prevent electrocution.
  - Airflow will speed the cooling process.
  - Misting fans are even more effective at cooling.
- Provide free choice access to salt to promote drinking. Loose salt is preferred over a salt block.
- Clip horses with long hair coats (i.e. horses with Cushing's disease) to enhance cooling.
- Transport horses during the coolest part of the day. Make sure that trailers are well ventilated and offer water often. Don't park in direct sunlight with horses inside.
- Watch horses with anhidrosis whom have little or no ability to produce sweat. These horses are prime candidates for heat stress.

## Cooling an overheated horse

To cool an overheated horse (rectal temperatures above 103° F):

1. Spray (with a steady stream of water) the horse's head, back, neck, rump and legs with cool water.
2. Spray and scrape the water off right away. Water can act as insulation and increase the horse's body temperature if you don't remove it.
3. Repeat this continuously until the horse is cool.

You can add ice to the water to speed-up cooling for very hot horses (rectal temperatures above 105 F). Research shows using ice to cool a hot horse is safe. Ice baths reduce core body temperature and lower heart rates after hard exercise. Horses were also found to trot more freely after an ice bath.

Don't directly apply ice water over the hind end (large gluteal muscles). Focus on areas where the blood vessels are more prominent: head, neck, back and rib area.

Don't place a sheet or blanket on the horse when trying to cool it. Blanketing will block water evaporation from the skin. Don't blanket during hot and humid conditions.

## Effects of heat on horses

Prolonged exposure to high temperatures can result in:

- Heat stress



First, hose down the horse.



Then, scrape the water off right away.

- Heat stroke
- Problems such as dehydration, muscle spasms and colic



A skin tent test can check if your horse is dehydrated.

## Heat stress

### Signs of heat stress

- Rectal temperatures above 103 F
- Increased heart rate
- Increased breathing rate
- Profuse sweating
- Droopy ears
- Tiredness
- Dehydration
- Skin tent lasting several seconds after pinching the skin of the neck or shoulders
- Reduced feed intake

Reduced feed intake combined with changes in metabolism during hot weather can cause bodyweight loss. Make sure to track feed intake, body condition and bodyweight during hot weather, especially for thin, older and younger horses. Contact your nutritionist or veterinarian if you notice body condition or bodyweight loss.

## Heat stroke

Heat stroke is a serious overheating condition in horses, which may occur when horses are worked hard in extreme heat and/or humidity. Contact your veterinarian right away if you suspect your horse is having a heat stroke.

### Signs of heat stroke

- Rectal temperatures above 106 F
- Rapid heart and breath rates that don't decline within 20 minutes of stopping exercise
- Whinnying and distress
- Dehydration with dry mucous membranes and prolonged skin tents of 4 to 10 seconds
- Muscle weakness
- Incoordination
- Collapse

**Table 2. Vital signs of normal and horses suffering from heat stroke**

Vital sign	Normal adult horse	Adult horse suffering from heat stroke
Rectal temperature (F)*	99.5 to 101.5 at rest Up to 103 during exercise	Over 105
Pulse rate (beats per min)	30 to 44	More than 60

Vital sign	Normal adult horse	Adult horse suffering from heat stroke
Breathing rate (breaths per min)	8 to 12	More than 40

*\*Rectal temperatures usually underestimate true body core temperature*

## Treatment

Horses suffering from heat stress and heat stroke need immediate cooling.

Heat stroke is an emergency that requires immediate veterinary attention. Treatment includes:

- Stopping all exercise
- Getting the horse out of the sun
- Using fans
- Spraying and scraping ice water to cool the horse
- Providing cool, clean water
- Making electrolytes available

A veterinarian will often give intravenous (IV) fluids and electrolytes.

## Acclimating horses to the heat

We recommend a 15 to 21 day acclimation period for horses from cooler or drier climates traveling to compete or reside in hot, humid climates. Acclimation increases the horse's tolerance to heat and exercise. You should still monitor the horse during training and competition in hot and humid climates.

## Warm weather infectious diseases

Hot weather brings an increased risk of infectious diseases that involve arthropods transmission to horses. Two important diseases in this category are West Nile virus (WNV) and Potomac Horse Fever (PHF). WNV causes neurologic signs and muscle trembling, killing almost a third of the horses that develop signs. Mosquito numbers often soar in late summer, as larvae hatch from warm water pools.

Horse owners can do 3 things to lower the risk of WNV infection:

- Eliminate or treat all standing water in their horse's environment to discourage mosquito hatching.
- Minimize the likelihood of mosquito bites by keeping their horses indoors during prime mosquito feeding times (dawn and dusk) and protected with repellants.
- Ensure their horses are well vaccinated against WNV. This may include a late summer booster vaccination, in addition to a vaccination in the spring.

PHF cases are more frequent in late summer and are characterized by fever, laminitis and often, diarrhea. Horses can be infected by drinking contaminated water, or by ingesting feed that has been contaminated by insects from aquatic environments. PHF resembles several other diseases so immediate veterinary care and diagnostic testing are strongly recommended.

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