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As the summer approaches, owners need to consider management practices needed to help their horses get through the hot weather. It is important to understand the normal physiology of the horse when exercised in hot or humid weather. During exercise the body generates heat faster than at rest. A large percentage of the stored energy used by the body during physical activity is converted to heat rather than motion. The more strenuous the activity the more body heat is generated. Additional heat generated during exercise results in an elevation of core body temperature from resting values (range, 99-100 F) to an excess of 102-106°F. The horse's body attempts to cool itself by dissipating excess heat via sweating. In response to exercise, sweat glands are triggered to produce sweat. The subsequent evaporation of sweat carries heat from the body and helps to lower body temperature to a safe range. An important point to remember is that high humidity decreases the sweat evaporation rate, therefore slowing the cooling process. This is especially important in the heat and humidity of the summer. High temperatures and humidity decrease the horse's ability to cool. If the rate of body temperature cooling is not satisfactory to match the ambient conditions, heat stress can develop.

Horse owner's can help their horses cool by employing four management practices. These include good ventilation, encouraging water intake, carefully planned exercise, and actively observing for signs of heat stress. One way to help horses get through hot weather is to ensure that barns are adequately ventilated. This can be done by opening doors and windows. Fans can also be used to increase air flow. A fan over each stall will move air directly over the horse. Fans with mist attachments can also be used, but may not provide any additional benefit to a regular fan in humid areas. Assuring adequate water intake is critical. On average a 1,000 lb horse needs 8 to 10 gallons of fresh water per day. As the air temperature increases, even non-exercising horses sweat and consume more water. When exercising at temperatures above 70°F, adult horses may consume 20 to 25 gallons of water per day. An owner can encourage the horse to drink water by providing salt blocks or loose salt in the feed. Horses should be offered fresh water frequently and have access to water at all times. It is also advisable to offer an additional bucket containing commercially available horse electrolyte solutions mixed with water. However, the provision of fresh water is always required when electrolyte water is offered. This can be beneficial especially if the horse is losing electrolytes through sweating. However, some horses will not willingly drink electrolyte solutions mixed with water so an alternative water source should be made available. An additional management practice to decrease heat stress is avoiding exercise during the hottest time of the day, typically from 11 a.m. to 3 p.m. Turn horses out to pasture at night, especially if the pasture is lacking shade.

In addition to following these management recommendations, owners should be aware of the

signs of heat stress suffered by horses in the summer. It is important to understand and recognize the signs of heat exhaustion and to know what to do when these signs have been observed. Horses with heat exhaustion may continue to sweat excessively or in severe instances may stop sweating altogether. Signs of heat stress include weakness, stumbling, increased respiratory rate (> 32 breaths per minute), and an increased rectal temperature (>102 °F) after removal from exercise. Notify your veterinarian immediately if any of these signs are observed. Before your veterinarian arrives owners should provide frequent small amounts of cool water for the horse to drink. To aid in heat dissipation the horse can be bathed in cool water starting at the feet and slowly working up the legs. Alcohol baths (isopropyl) can also be helpful to lower elevated body temperatures. If possible stand the horse in the shade and/or in front of a fan. Once you have initiated first-aid, continue to take and record the horse's rectal temperature every 15 minutes until the veterinarian arrives. In severe cases it may be necessary for your veterinarian to administer intravenous fluids to combat dehydration and electrolyte imbalances associated with heat exhaustion. Your veterinarian also will consider the use of nonsteroidal anti-inflammatory drugs such as flunixin or phenylbutazone to aid in patient well-being and to aid in the reduction of elevated body temperature. In summary, owners should understand what they can do to avoid heat stress in their horses and to recognize the signs of heat stress so that prompt veterinary care can be provided when necessary.

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[« Back](#)

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