

Don't sweat it – Equine anhidrosis

Florida horse owners are probably very aware of the condition commonly referred to as “nonsweating”. The scientific name for a nonsweater is equine anhidrosis. The term ‘anhidrosis’ comes from the Greek roots - an = without and hidros = sweat. The syndrome is characterized by the inability to sweat either due to sweat gland malfunction or a problem with the nerves/stimulus, which activate the gland. The exact cause of anhidrosis is still not well understood. But, research is ongoing to identify the mechanism of this condition.

Horses rely on 2 main mechanisms to dissipate body heat generated. Sixty five to seventy five percent of heat loss is via sweating while fifteen to twenty five percent of heat loss is via the respiratory tract. One liter of sweat is equivalent to the loss of heat generated in 1 to 2 minutes of high-intensity exercise.

Anhidrosis was first reported/recognized in the 1920s in Thoroughbreds transported from Australia to Malaysia. It is more prevalent in hot, humid climates but is also reported in northern states such as Minnesota and Michigan. It is estimated that as many as 20% of horses in Florida are affected. Studies have not revealed any coat color, age, sex, or breed predilection. A diagnosis of anhidrosis is most often made by the clinical signs.

The clinical signs of anhidrosis include partial or complete absence of sweating, an increased/rapid respiratory rate, dry skin and coat, lethargy, poor performance, hair loss, decreased appetite, decreased water intake, and fever (up to 105° Fahrenheit). The clinical signs may be gradual or may be noticed suddenly by an owner or trainer. Changes in environment such as moving from northern states to southern states or a stressful event or traumatic episode may trigger the onset of anhidrosis. Severe anhidrotic horses need immediate action for cooling their bodies off (cold hosing, fans) to dissipate the built up heat. This is because their main mechanism to dissipate 65-75% of body heat is impaired.

Treatment is directed towards environmental control and keeping anhidrotic horses cool. This includes moving the horse to a cooler, drier climate, fans, adequate shade, and air-conditioned stables. There is no specific treatment for anhidrosis at this point because the underlying cause is still unknown. Potential mechanisms include nerve dysfunction, hormonal dysfunction, vascular impairment, electrolyte abnormalities, and sweat gland abnormalities. Different horse owners and veterinarians report success with supplementation such as electrolytes (sodium chloride or potassium chloride), vitamin E, thyroid hormones, or amino acids (tyrosine). There is also a product specifically designed for use in anhidrotic horses called ONE AC, which has been reported to be effective. Acupuncture has also been used successfully in some horses. There are even anecdotal reports of owners using beer to treat their horses.

If your horse develops any of the clinical signs described above make sure to check your horse's temperature immediately, cool him off, and contact your veterinarian for advice.