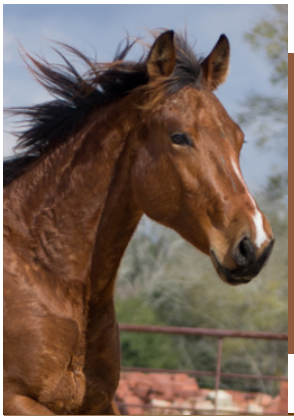

Insect Bite Hypersensitivity in Horses

The Educated Horseman: Health Series

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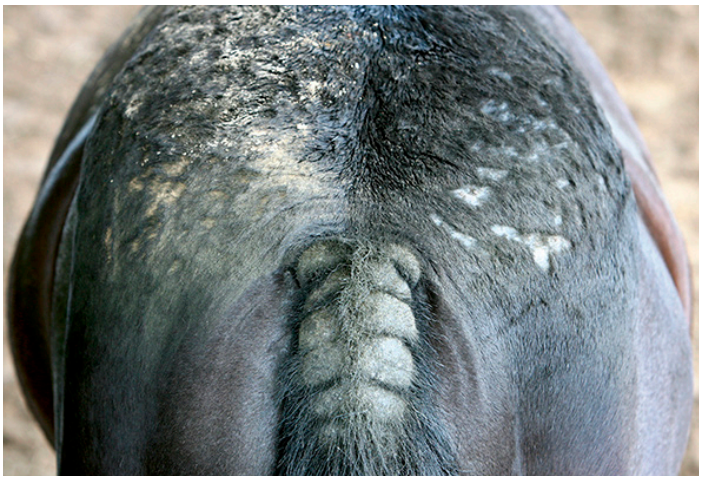
Insect bite hypersensitivity (IBH) in horses has many common names – sweet itch, summer itch, Queensland itch and summer eczema. Each implies the main symptom, pruritus (itchy skin), in horses. Unfortunately, insect bite hypersensitivity is a common dermatological ailment in horses, especially those living near rivers and swamps. Although some studies suggest that bloodsucking insects like mosquitos are the cause of the allergic reaction, the main culprit is thought to be the Culicoides midge (Biting midge or No-See-Um gnat). The bite and saliva from the female Culicoides midge causes a Type-1 hypersensitivity which is an allergic reaction caused by exposure to a specific type of antigen. The allergic reaction causes inflammation in the affected areas causing itchy skin and hair loss commonly found along the chest, shoulders, mane, tail and midline of the abdomen.

Although a number of treatment options exist, prevention and insect control is the best strategy. Research has shown that the inflammation response to one bite can last up to one hour. A swarm of gnats can deliver up to 3,000 bites within an hour, and recovery from that kind of exposure can take three to six weeks. Researchers are working a vaccination to prevent horses from experiencing the allergic reaction caused by IBH; however, until the vaccine becomes available commercially, combining the tips below will help manage and treat IBH.



Sweet itch

Reduce exposure to the Culicoides midge by disrupting its habits.

- **Netting:** install it around barn door and window openings to create a physical barrier that cannot be penetrated. Specific ultra-fine netting with a pore size less than 0.9 mm2 is available for mosquitos and *Culicoides* midges online.
- **Fans:** use them in the barn, because Culicoides midges are not effective fliers.
- **Reduce moisture:** *Culicoides* midges thrive in hot, humid, grassy or wooded areas, and they breed in standing water. Reduce the amount of standing water around your pastures and barn.
- **Stabling:** put horses in stables from dusk to dawn when the gnats are most active.
- **Physical barriers:** reduce exposure with fly masks, fly sheets and leg wraps.

Use insecticides with 2% permethrin

- **Use insecticides** with a minimum of 2% permethrin. Higher concentrations are available for livestock use, but care should be taken when using on the sensitive skin of a horse with IBH. For owners seeking a more natural insecticide, products derived from chrysanthemum products are the most successful.

Reduce itching with any of multiple options available to manage pruritus.

- **Topical creams** (corticosteroids), like cortisone: these are not labeled specifically for use on horses but can be useful to alleviate some discomfort. Neem oil and sulphur products are also successful in reducing discomfort as well as conditioning dry skin.
- **Shampoo:** used with colloidal oatmeal, shampoo reduces pruritus and moisturizes dry skin and also has been shown to provide some relief, but baths should only be given once a week to prevent stripping the coat of natural oils.

- **Systemic steroid treatment:** used with corticosteroids, steroid treatment will reduce inflammation but cannot be considered a long-term option. Long-term use of corticosteroids can suppress the immune system, which increases the chance for a secondary infection to occur or can cause increased laminitis risk.
- **Antihistamines:** these will only block histamines, which limits the success of treating the symptoms of Type-1 hypersensitivity due to the variety of physiological responses involved.
- **Feed supplements:** adding Omega-3 and Omega-6 fatty acids (flaxseed) to a horse's diet has been shown to reduce inflammation. Researchers have found that horses with IBH who were fed crushed flaxseed (1 lb/1,000 lb of body weight [BW] per day) had a significant decrease in allergic skin response.

Control immune response

- **Control immune response** with allergy shots that have antibodies specific to *Culicoides* midges. These treatments desensitize the horse to the allergic reaction caused by insects, but typically have a low success rate (20%-30%) and can be fairly expensive. Multiple antigens are combined into one vial of allergy shots that should last three to four weeks. Each vial costs approximately $175, and the expected treatment time is a minimum of one year. Researchers are currently investigating salivary proteins from the *Culicoides* species to create new antibodies that should be more effective.

Treating and managing horses with insect bite hypersensitivity requires combining multiple therapies. Current treatments are unsuccessful when horses are overexposed to insects and other environmental allergens. Thus, success is dictated by early prevention and the owner's commitment to management practices that reduce exposure and treat the symptoms. Research has shown that IBH is an inherited trait; therefore, animals affected by the condition should not be selected for breeding purposes.

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