

African horse sickness

Guidance on protection from vector attack

www.defra.gov.uk



This document has been produced by Defra in conjunction with the Government/Horse Industry Working Group on African horse sickness.

Throughout this document, the term "horse" will be used to refer to horses and ponies and the term "donkey" will be used to refer to donkeys, mules or any other hybrids. When the term "equine" is used it refers to all horses, ponies, donkeys, mules, zebras and hybrids. The term "vet" will be used to refer to a veterinary surgeon.

African horse sickness (AHS) is not currently found in the UK or Europe but is a very serious disease that could have a significant impact on the UK equine population if it were introduced. See the Defra leaflet, "African horse sickness: How to spot the disease", for more information about AHS and the clinical signs in horses, available from the Defra helpline on 08459 335577, or from the Defra website at:

<http://www.defra.gov.uk/animalh/diseases/notifiable/africanhorse/index.htm>

African horse sickness is transmitted by biting insect vectors known as "midges" (*Culicoides* species). Midges are small biting insects that are around 1mm long. Female midges bite animals (and humans) to feed. If the insect is infected with AHS when it bites a susceptible horse, the bitten horse can become infected.

Midges are active through spring, summer and autumn. Females lay their eggs in moist areas, often in damp, organically enriched soil, on manure heaps or around stagnant water and slow running streams. Adult midges are most active at dusk and dawn and to a lesser extent during the night and during still, warm conditions. Because of their small size, midges generally do not fly in windy conditions, however they are easily spread over long distances by light winds.

If an AHS outbreak were to occur in the UK, preventing your horse being bitten by midges would currently be the best protection available against AHS. No vaccine is available for routine use. Protection from midge attack is difficult and there is no mechanism of protection that will guarantee your horse will not be bitten at all. The information below outlines protective measures that can be taken to decrease the risk of midge attack.

It is important to remember that the advice contained in this document is only relevant if AHS is diagnosed in the UK or elsewhere in Europe. Whilst you should make yourself aware of the clinical signs of AHS (see "African horse sickness: How to Spot the Disease"), protective measures are not necessary unless the risk of disease to the UK increases. Information about current level of risk can be obtained from the Defra website <http://www.defra.gov.uk/animalh/diseases/notifiable/africanhorse/index.htm>



*Donkey suffering from AHS
Picture courtesy of The Donkey Sanctuary*

Decreasing the risk of attack

Insecticide treatment

- No veterinary medicines are currently authorised to act specifically against midges in any species. Veterinary medicines containing Deltamethrin are currently considered the most effective against midges, however such products are not completely effective and at best only reduce the risk of horses being bitten by midges.

There are currently no veterinary medicines containing Deltamethrin authorised in the UK for specific use on horses. In the event of an increased risk of AHS in the UK you should discuss with your vet whether treatment to protect your horse against midges is appropriate and which veterinary medicine is most suitable. In exceptional circumstances, your vet may find it necessary to prescribe a veterinary medicine authorised for another species or for another condition, or an unauthorised veterinary medicine (i.e. one containing Deltamethrin) under the "cascade". Care must be taken to monitor closely for adverse reactions; if any are noted you should report them to your vet. You must be aware of the withdrawal period for the product used, which will be set by your vet, and use of the product must be appropriately recorded in your horse's passport.

No insecticide will guarantee protection against AHS and insecticide use against midges may not provide a practical and cost-effective control measure in all cases. In addition, care must be taken to use insecticides safely and in accordance with manufacturer's instructions (or the instructions of your vet in the case of unauthorised products). Inappropriate use of insecticides can result in adverse health effects and can cause serious environmental damage.

Physical protection

- Blankets are available that claim to protect horses from midge bites. We are not aware of any scientific evidence that such blankets are effective, but some horse owners report they help minimise other conditions caused by midge bites, such as “Sweet-itch”. If any type of blanket is to be used, you should ensure it fits your horse correctly and does not compromise its welfare.

Environmental conditions

- Due to their small size, midges generally do not fly in windy conditions. Moving your horse to a high, windy area may reduce the risk of midge attack. You must always consider your horse’s welfare when considering whether to move it to a different environment. In addition, you must not move your horse if movement restrictions are in place making such a movement illegal. In the event of an AHS outbreak you should check the Defra website for information about movement restrictions before moving your horse (www.defra.gov.uk).
- Midges are most active at dusk, dawn and at night. Focussing protection for your horse at these times may decrease the risk of midge attack. For example, you could stable your horse in protected housing (see overleaf) around dawn and dusk and ensure insecticide treatment is appropriately applied to help protect your horse at these times.
- Midges are most commonly found near damp areas, decaying vegetation or manure heaps. You can decrease the midge population in the vicinity of your horse by removing potential midge breeding sites such as the damp areas around drinking troughs, manure heaps or under leaky taps and by situating the manure or compost heaps as far from the equine living area as possible. Ideally, manure heaps should be more than 50 metres away from all livestock (including horses) or covered with a plastic, watertight cover. In addition, scraping the perimeters of the manure heap regularly, so they are no deeper than 6-10cms, may help reduce the midge population.
- Midges are attracted to goats, sheep and cattle as well as horses. Keeping horses with these animals may increase the risk of midge attack.

The general environment should not be treated with insecticides. This will probably have little effect on midge populations and can cause serious environmental damage, particularly in water courses.

Treatment of vehicles

- During transport, you can help protect your horse by treating the animal compartment of the transport vehicle with an appropriate residual insecticide before the journey (in addition to ensuring the horse is appropriately treated with an insecticide). In the animal compartment, you should use a product that contains a synthetic pyrethroid and that is licensed by the Health and Safety Executive for use against flying insects. The product should be suitable for use in animal housing or similar areas. The user will need to decide which product is most appropriate for their situation. In addition, openings to the animal compartment can be protected during transport with mesh that prevents midges entering (see overleaf for details). You must ensure that ventilation is not significantly reduced by the use of such mesh and that your horse's welfare is not compromised in any way.

The insecticide must be used in accordance with manufacturer's instructions. Spraying at rates in excess of the manufacturer's instructions will not improve efficacy but will increase the risk of groundwater and surface water pollution.

Synthetic pyrethroids are very toxic to insect life in rivers and streams. You must take great care not to allow these products to enter surface or groundwater. In particular, spraying vehicles on a hard stand presents particular dangers as run-off can be concentrated.

Vector protected equine housing

Housing of horses in an enclosed space (where the means are available to close doors and cover entrances with mesh) during peak periods of midge activity will help reduce midge biting rates.

Culicoides spp (Midges)
Picture courtesy of Vector-borne disease
programme, Institute of Animal Health



No building can be completely midge-proof, however efforts can be made to reduce the likelihood of midge attack within equine housing. Examples of what can be done to protect horses, whilst housed, are outlined below. The information below describes basic adaptations that can be made to ordinary stables to help decrease the incidence of vector attack. Information on how a building can be designed to be as fully vector-protected as possible is also available from the Defra website: <http://www.defra.gov.uk/animalh/diseases/notifiable/africanhorse/index.htm> although Defra is aware that this will not be possible for the majority of horse owners.

Improving vector protection of equine housing

- All openings should be protected by filters or mesh with a maximum mesh size no greater than 1.6mm². Due to the small size of midges, it is essential that mesh size is checked to ensure it is suitable as a deterrent for midges rather than for larger insects such as mosquitoes (gnats) or flies. Mesh screens can be placed over windows and doorways.
- Mesh should be soaked or sprayed with residual insecticide before the facility is put into use and at intervals recommended in the manufacturer's instructions. Insecticide products used should contain a synthetic pyrethroid and should be licensed by the Health and Safety Executive for use against flying insects. You must also ensure the product is safe for use in animal housing.

Insecticide treatment should not be performed more frequently than recommended by the manufacturer. More frequent use (or using at excessive levels) could lead to toxicity in animals and handlers and will result in increased environmental harm with no increased benefit.

- Care must be taken to ensure that the mesh covering windows and doors does not reduce light or ventilation to a degree that could compromise the welfare of your horse.

Housing horses in accommodation protected in the above way at times of peak midge activity will reduce the likelihood of midge attack but it is unlikely to fully protect your horse against AHS. We would always recommend a combination of protection measures to ensure the highest possible degree of protection is achieved.

For telephone and email enquiries for information on any aspect of Defra's work, the Defra Helpline can be contacted on **08459 33 55 77**.

The Helpline number is a local call rate number within the UK and is available between 9am and 5pm on working days.

From outside the UK the telephone number is **+44 (0) 20 7238 6951**.

There is also a minicom/textphone number for the deaf and hard of hearing: **0845 300 1998**.

The Helpline email address is **helpline@defra.gsi.gov.uk**

Front cover photograph *Culicoides* spp (Midges)
courtesy of Vector-borne disease programme,
Institute of Animal Health

PB13255. March 2009