



## **Introduction**

The purpose of this document is to provide advice to aid in protecting equines in the African horse sickness (AHS) infected zone, which is the area outside the AHS controlled area, from AHS. This document does not supersede the Veterinary Procedural Notice for African horse sickness Control and associated Standard Operating Procedures. Owners and managers of land where equids are kept and owners of equids are encouraged to discuss detailed AHS prevention strategies and methods unique to their property with their veterinarians. Owners and managers of land where equids are kept and owners of equids must familiarize themselves with the AHS control measures explained in the Veterinary Procedural Notice for African horse sickness Control and associated Standard Operating Procedures available on the DALRRD ([www.dalrrd.gov.za](http://www.dalrrd.gov.za)) or myhorse ([www.myhorse.org.za/ahsvpn](http://www.myhorse.org.za/ahsvpn)) websites.

## **African horse sickness as a controlled animal disease**

AHS is a controlled animal disease as defined in section 1 of the Animal Diseases Act, 1984 (Act no. 35 of 1984). Control measures have been prescribed in terms of section 9 of the Act (Animal Diseases Regulations, No. R. 2026 of 26 September 1986, as amended).

A controlled area for AHS has been prescribed in terms of the Animal Diseases Act 1984 (Act no 35 of 84). The controlled area is in the Western Cape Province and is made up of the AHS free zone, the AHS surveillance zone and the AHS protection zone. The AHS infected zone encompasses the whole of South Africa outside of the AHS controlled area and AHS is considered endemic in the AHS infected zone.

As explained in Section 3.1 of the Veterinary Procedural Notice for African horse sickness Control, the following control measures apply to the AHS infected zone:

- a) Annual vaccination of all equines;
- b) Any AHS case, or suspicion thereof must be reported to the local state veterinarian;
- c) Movement control within the AHS infected zone may be implemented at the discretion of the local state veterinarian;
- d) Movement of equids out of the AHS infected zone into the AHS controlled area is strictly controlled and requires an AHS movement permit specific for movement into the AHS controlled area. This permit can be obtained by contacting [move@myhorse.org.za](mailto:move@myhorse.org.za).

For information on the AHS control measures that have been prescribed for both the AHS infected zone and the AHS controlled area in terms of the Animal Diseases Act 1984 (Act no 35 of 84), please see the Veterinary Procedural Notice for African horse sickness Control and associated Standard Operating Procedures available on the DALRRD ([www.dalrrd.gov.za](http://www.dalrrd.gov.za)) or myhorse ([www.myhorse.org.za/ahsvpn](http://www.myhorse.org.za/ahsvpn)) websites.

In the AHS infected zone, vaccination and decreasing exposure to midges are the main protective measures against AHS.

Destruction of infected equids is not prescribed by the Animal Disease Regulations R. 2026 of 1986 and is not required for AHS control purposes. It is however advisable to stable and treat equids infected or suspected to be infected with AHS virus with insect repellents and insecticides to prevent midge vectors from feeding on an infected animal, and then transmitting the AHS virus to other equids in the vicinity.

### **Essential information on AHS**

AHS is caused by a virus that belongs to the Orbivirus genus. There are nine serotypes of AHS (Serotype 1-9) and all nine serotypes are present in South Africa. AHS affects horses, donkeys and zebra and very rarely, dogs. It is possible for equids to be infected with AHS but show few or no signs of the disease but there is no evidence that any equid, including zebra, can be a long term carrier of AHS.

AHS is transmitted from equid to equid through the bite of infected *Culicoides* midges, mainly *Culicoides imicola* and *Culicoides bolitinos*. *Culicoides* midge numbers usually increase in warmer months and drop in colder months especially after frost or snow fall. *Culicoides* midges

are generally widespread in South Africa but favourable climatic conditions will increase the numbers and spread of the *Culicoides* midge. Periods of drought followed by heavy rains are particularly favourable for the *Culicoides* midge.

Symptoms of AHS are varied and can range from fever, swelling of the head, eyes and forequarters, colic, respiratory distress and sudden death. Please always consult your private or state veterinarian regarding the recognition, management and treatment of cases of AHS.

### **Vaccination in the AHS infected zone**

Vaccination against AHS is an important measure to protect equines from the disease in the AHS infected zone. Vaccinating equines against AHS will help to protect both them and other equines from the virus.

Some control measures have been prescribed regarding vaccination against AHS. These relate to both the AHS controlled area and the AHS infected zone. Please see the Veterinary Procedural Notice for African horse sickness Control and associated Standard Operating Procedures and Table 2 of the Animal Disease Regulations R2026 of 1986 for more information on the control measures in terms of the Animal Diseases Act 1984 (Act no 35 of 84) regarding vaccination against AHS. The following relate to the AHS infected zone as explained in Chapter 4 “*Control measures*” of the Veterinary Procedural Notice for African horse sickness Control:

#### **4.1. “Vaccination of equines against AHS**

##### **4.1.1. The AHS Infected Zone**

- a) *All equines in the AHS infected zone of South Africa must be vaccinated annually against AHS with an effective remedy by the responsible person;*
- b) *Only a vaccine registered under the Fertilizers, Farm Feed, Agricultural Remedies and Stock Remedies Act, 1947 (Act No.36 of 1947) for this purpose, or under the Medicines and Related Substances Control Act, 1965 (Act No. 101 of 1965) for this purpose or any medicine approved by the DAH in writing for a particular use will be accepted as an effective remedy;*

- c) *For movement into the AHS controlled area, only vaccination against AHS with an effective remedy performed by a veterinarian will be considered as valid;*
- d) *To reduce the likelihood of transmission of vaccine virus, vaccination is recommended in the low vector activity period from 1 June to 31 October;*
- e) *All AHS vaccinations performed by a veterinarian must be recorded in the vaccination certificate in the passport as follows:*
  - i. *Date of vaccination for each bottle of the vaccine,*
  - ii. *Batch number of each bottle of the vaccine,*
  - iii. *Certification by the vaccinating veterinarian for each bottle of the vaccine.”*

Vaccination during the low vector period of the year will help prevent *Culicoides* midge transmission of vaccine virus. In the AHS infected zone it is strongly recommended that vaccination against AHS be conducted during the lower vector period of the year from 1 June to 31 October each year. If vaccination during this low vector period in the AHS infected zone is not possible, methods of decreasing exposure to *Culicoides* midges from the date of administration of the first bottle until 40 days after administration of the second bottle of vaccine should be considered.

Note that strict set vaccination periods and permissions are enforced for the AHS controlled area. Please consult the Veterinary Procedural Notice for African horse sickness Control for more information on these control measures.

It is important to be cognisant of the fact that the safety and efficacy of a vaccine that is registered in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 1947 (Act no 36 of 47) has been evaluated and found to be acceptable by the mandated Registrar of Act 36. Registered vaccines will display a registration number, usually starting with a “G” and the Act under which they are registered on their packaging. Unregistered vaccines, regardless of their claimed properties, have not been subject to such evaluation and have not been found acceptable in terms of their safety or efficacy in equines by the mandated Registrar of Act 36. Note that vaccines are not registered under the Animal Diseases Act 1984 (Act no 35 of 84) in South Africa and any claim that a vaccine for use in South Africa is compliant with registration conditions of the Animal Diseases Act 1984 (Act no 35 of 84) is spurious. The use of unregistered vaccines, even as supplementary vaccinations, should be strongly discouraged for these reasons and may be in contravention of several Acts of the Republic of South Africa. If you would like to report the use of an unregistered vaccine, please

contact the Directorate: Agriculture Inputs Control at the address listed on the DALRRD website: <https://www.dalrrd.gov.za/Branches/Agricultural-Production-Health-Food-Safety/Agriculture-Inputs-Control/Contact-Us>

Be wary of misinformation regarding vaccination and vaccines and consult your veterinarian should you require clarification or more information on vaccination against AHS.

### **Protection from *Culicoides* midges**

AHS is transmitted by the bite of *Culicoides* midges. The virus is not transmitted directly from equid to equid or indirectly mechanically through materials and objects such as clothes, tack, grooming equipment etc.

Minimizing an equine's exposure to *Culicoides* midges may help protect the equine from contracting AHS. Minimizing exposure to *Culicoides* midges could be achieved through preventing contact between the equine and the midge and by reducing midge numbers.

*Culicoides* midges readily breed in damp and moist conditions e.g. around leaking taps, water points, standing open water, moist muck heaps, rotting vegetation etc. Minimizing likely *Culicoides* midge breeding sites may assist to decrease the numbers of *Culicoides* midges in the area. Such areas could be repaired, removed, or sited far away from the equines to decrease the risk of midge-equine contact.

Stabling equines in the hours when *Culicoides* midges are most active may aid in shielding them from these insects. *Culicoides* midges are usually more active in cooler periods and during the night, and they are especially active at dusk and at dawn. Where possible, insecticide-treated, preferably plastic or cloth, mesh of appropriate gauge (e.g. 80% Allnet) to prevent the entry of midges could be considered to further protect stabled animals. If mesh is used, be sure that the mesh screening is protected via a sturdy and robust structure to prevent damage by the equines and subsequent injury.

Insecticides are compounds that kill insects such as *Culicoides* midges on contact with the insecticide substance. When insecticides are applied to surfaces (such as stable walls, netting, unavoidably damp/moist area etc.) or are dispersed into the air through a diffuser, insects that come into contact with the insecticide will be killed and this will lessen the number of midges in the vicinity. When insecticides are applied to equines, the midge must first land on the equine to come into contact with the insecticide. While there is therefore a window in which the midge may bite the equine, the application of insecticides to equines may help prevent spread of AHS between an infected equine and healthy equines as the midge may die

between feeds which will lessen midge numbers in the vicinity. The recommended active ingredients for such insecticides are cypermethrin or alphacypermethrin.

Insect repellents are compounds which repel and prevent *Culicoides* midges from settling on, and therefore biting an animal. When applied to an equine, they repel midges from the equine before the midge lands on and bites the animal. This helps to reduce the potential for AHS transmission as midges will not feed on the equines. Insect repellents also deter midges from approaching an area or surface. Published data is available supporting 15% DEET as an effective repellent for *Culicoides* midges.

Therefore, using registered insect repellents together with registered insecticides effective against *Culicoides* midges on horses may help to protect equines from exposure to the midges. Please conduct insecticide spraying in a responsible manner taking populations of bystander insects, animals, water sources, people, feed and food and the environment into consideration. All insecticides and repellents used must be registered in terms of the Fertilizers, Farm Feed, Agricultural Remedies and Stock Remedies Act, 1947 (Act no, 35 of 1947) and such products must be used strictly in compliance with the manufacturers' conditions and recommendations and all relevant legal requirements. It is very important to note that the safety, efficacy and conditions of use of insect repellents and insecticides registered in terms of Act no 36 of 47 have been evaluated and found acceptable by the mandated Registrar of Act 36.

The above are considered basic measures. Please contact your veterinarian to discuss more detailed *Culicoides* midge protection methods suitable for your property and animals.

### **Movement of equids in the AHS infected zone**

Official AHS movement restrictions are not routinely implemented for movements of equids within the AHS infected zone, other than for movement into the AHS controlled area, but a local state veterinarian may decide to implement local movement restrictions if deemed necessary. If you are aware that there are outbreaks of AHS in the vicinity, please contact your local state veterinarian to enquire as to whether official movement restrictions have been implemented for your area.

**NB movement of equids to, within and out of the AHS controlled area is officially controlled and more detail is available in the Veterinary Procedural Notice for African horse sickness Control and associated Standard Operating Procedures.**

An equid that is infected with AHS may serve as a source of virus for the *Culicoides* midges in an area and, in turn, for other equids. The infective period for AHS is considered to be 40

days in line with the recommendations of the World organization for Animal Health (OIE) Terrestrial Code. This means that for up to 40 days after an equine was diagnosed with AHS, it could be capable of acting as a source of AHS virus for any other *Culicoides* midges that feed on it. *Culicoides* midges that feed on an infected equine could therefore pick up the AHS virus and transmit AHS to other equids they subsequently feed on. For this reason, to prevent further transmission of AHS, it is good practise to stable infected equids and use insect repellents and insecticides on an equid that is infected with AHS.

Protecting equids from contracting or spreading AHS is captured as an important responsibility of owners and managers of animals in Section 11 of the Animal Diseases Act 1984 (Act no 35 of 84). Section 11 of the Animal Diseases Act, 1984 (Act no 35 of 1984) states that “*any owner or manager of land on which there are animals, and any owner in respect of animals, shall, whether or not such owner or manager has obtained advice regarding the health, or any certificate of fitness or health of the animals in terms of section 13 (1) (c), from the director -*

- (a) *take, with due observance of the provisions of this Act, all reasonable steps to prevent the infection of the animals with any animal disease, or parasite and the spreading thereof from the relevant land or animals, or which are necessary for the eradication of animal diseases and parasites on the land or in respect of the animals;...*”

In accordance with Section 11, please note the following advice:

- Infected equids should not be moved to another property, whether the other property is infected or not, even within the AHS infected zone, unless for veterinary treatment or for animal welfare reasons. An equine that has been diagnosed with AHS within the last 40 days should also not be moved to another property, whether the other property is infected or not, even within the AHS infected zone , even if they have recovered, unless for veterinary treatment or for animal welfare reasons.
- Apparently uninfected equids from an infected property should also not be moved to another property, whether the other property is infected or not, even within the AHS infected zone unless for veterinary treatment or for animal welfare reasons.
- Similarly, if AHS has been detected on a property, the same 40 day period should be observed in line with the Section 11 with regard to the movement of equines to the property.

Where an equine is ill with AHS or has recovered from AHS within the preceding 40 days and must be moved for veterinary treatment or for animal welfare reasons, the owner or manager should make sure the destination facility is made aware of the AHS history of the equine.

## Testing

As with all controlled diseases, the Director: Animal Health has approved and registered certain laboratories and tests for the diagnosis of AHS. These laboratories and tests have undergone rigorous and strict evaluation (in line with international testing recommendations of the OIE) of their conformity, calibration, laboratory practice biosecurity and suitability for South African conditions. Such approved facilities also assist with reporting and analysis of disease trends which aids the veterinary authority in monitoring the incidence and epidemiology of AHS in the AHS infected zone. When samples are collected for AHS testing, it is important that they are only sent to laboratories that are approved by the Director: Animal Health in terms of Regulation 12B of the Animal Disease Regulations R2026 of 1986 to ensure an accurate and reliable diagnosis. A list of such approved laboratories and tests is available on the DALRRD website.

It is a contravention of the Animal Diseases Act 1984 (Act no 35 of 84) for a laboratory to perform a test for a controlled animal disease if they do not have approval in terms of Regulation 12B or a permit in terms of Section 20 of the Animal Disease Act 1984 (Act no 35 of 84) to do so.

For the diagnosis of AHS in the AHS infected zone, the use of a polymerase chain reaction (PCR) test is recommended. PCR testing will usually require blood collected in a collection tube containing EDTA (Ethylenediaminetetraacetic acid) or a tissue sample on ice. EDTA is an anticoagulant that does not interfere with the PCR test. Serological testing (blood collected in a serum tube) for AHS antibody is not appropriate for diagnostic testing within the AHS infected zone where routine vaccination occurs and there is yearly field virus circulation, such as occurs in South Africa.

Please consult your veterinarian or the relevant laboratory regarding the appropriate sampling and transport requirements for testing.

If you would like to report a test that is not approved by the DAH, please contact [epidemiology@dalrrd.gov.za](mailto:epidemiology@dalrrd.gov.za)

## What to do if you think your equid is infected with AHS

In terms of the Animal Diseases Act 1984 (Act no 35 of 84) it is required that you report this suspicion to your local state veterinarian immediately. Reporting is important to provide the state veterinarian with the required information to enable them to decide on potential control measures in the AHS infected zone. According to the Animal Diseases Act 1984 (Act no 35 of 84), any person that suspects the incidence of AHS must report this to the state veterinarian



and you should not simply assume that someone else will report the case. It is therefore a good idea to obtain and always keep the contact details of your local state veterinarian handy. If you are not able to contact your local state veterinarian, you can contact the South African Equine Health and Protocols (SAEHP) on [info@myhorse.org.za](mailto:info@myhorse.org.za) for assistance.

In terms of Section 11 of the Animal Diseases Act 1984 (Act no 35 of 84), you must also inform your neighbours and anyone who has moved an equid to or from your property (including animals moved to and from the property for shows etc.) in the preceding 30 days of the suspicion.

Please contact your private veterinarian to discuss treatment options for your equine and be wary of misinformation regarding treatment methods.

Additional reading:

- Veterinary Procedural Notice for African horse sickness Control and associated AHS Standard Operating Procedures: <https://www.dalrrd.gov.za/Branches/Agricultural-Production-Health-Food-Safety/Animal-Health/information/dahpolicy> or [www.myhorse.org.za/ahsvpn](http://www.myhorse.org.za/ahsvpn)
- [https://www.oie.int/fileadmin/Home/eng/Animal\\_Health\\_in\\_the\\_World/docs/pdf/Disease\\_cards/AFRICAN\\_HORSE\\_SICKNESS.pdf](https://www.oie.int/fileadmin/Home/eng/Animal_Health_in_the_World/docs/pdf/Disease_cards/AFRICAN_HORSE_SICKNESS.pdf)
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